Mega-Pixel Network Vandal Dome

JNC-V2434 / JNC-VIR2434 / JNC-V2434-PoE

User's Manual

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Firmware Version: V3.2.70

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1. Preface

This Network Vandal Dome is a CMOS Network Vandal Dome. It builds in web server. User views real-time video via IE browser.
This camera supports MPEG-4 & M-JPEG video compression which provides smooth and high quality video. The event video can be stored in the SD card, and can be playback remotely.
The IR model equips infrared illuminator to provide good image quality, even in darkness.
The PoE model built-in support for Power over Ethernet allows the camera to receive both data and power over a single Ethernet cable.

2. Product Specifications

- MPEG-4 / MJPEG compression formats. Supports resolution up to SXGA (1280x1024), 1.3Mega pixels.
- MPEG-4 / MJPEG dual streaming.
- Self-Contained HTTP Web Server providing Internet capability for remote access
- Day & Night functionality for 24-hours surveillance, auto activate IR illuminator in low illumination (IR model)
- Infrared radiant distance up to 12 meters (IR model)
- Unbreakable housing, support IP66 water proof standard
- Built-in PoE splitter, support for Power over Ethernet (PoE model)
- Supports SD card for local event recording
- 2-way audio
- Online firmware upgrade
- Recorded files compatible with Microsoft Windows Media Player

Hardware	
CPU / RAM / ROM	ARM 9 ,32 bit RISC / 64MB / 8MB
Image Sensor	1/4" CMOS, 1.3 Mega pixels
Lens	Normal model: Vari-focal 4 ~ 9 mm, F1.5 IR model: Vari-focal 3.7 ~ 12 mm, F1.6
IR Distance (IR model)	12 Meters

Illumination	Normal: 1.5 lux, IR On: 0 lux
Audio In	1 Line in (RCA connector)
Audio Out	1 Line out (RCA connector)
Digital I/O	1 In / 1 Relay out
Water Proof	IP-66 standard
Power Supply	Normal model: DC 12V, 1A PoE model (built-in PoE Splitter): Use PoE: PoE Injector (IEEE 802.3af) Or, use Power Adaptor: DC 12V, 1A
Power Consumption	Normal model: Max. 4 Watt Normal model + Heater: Max. 9 Watt IR model: Max. 6 Watt IR model + PoE: Max. 9 Watt IR model + Heater: Max. 11 Watt
Dimensions	Φ138 x H105 mm
Network	
Ethernet	10/ 100 Base-T
Network Protocol	HTTP, TCP/IP, RTP/RTSP, 3GPP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP
System	
Video Resolution	1280x1024, 640x480, 320x240, 160x120
Compression Format	MPEG-4, MJPEG
Frame Rate	Up to 10 FPS@1280x1024 Up to 30 FPS@640x480
Dual Streaming	Yes
3GPP	Yes, Live view with 3G mobile phone
Video Bitrate Adjustment	CBR, VBR
Video Adjustment	Brightness, Contrast, Exposure, Sharpness, AGC, Night Mode
Image Snapshot	Yes
Motion Detection	Yes, 3 different areas
Event Trigger	Motion Detection, Digital In
Triggered Action	Send Email, Send to FTP, Save to SD Card, Relay out
Pre/ Post Alarm	Yes, configurable
Security	Password protection
Firmware Upgrade	HTTP mode, can be upgraded remotely
Connection	Up to 10 clients simultaneously
Audio	Yes, 2-way
SD card management	
Recording Trigger	Motion Detection, Digital In, IP Check, Network Disconnect

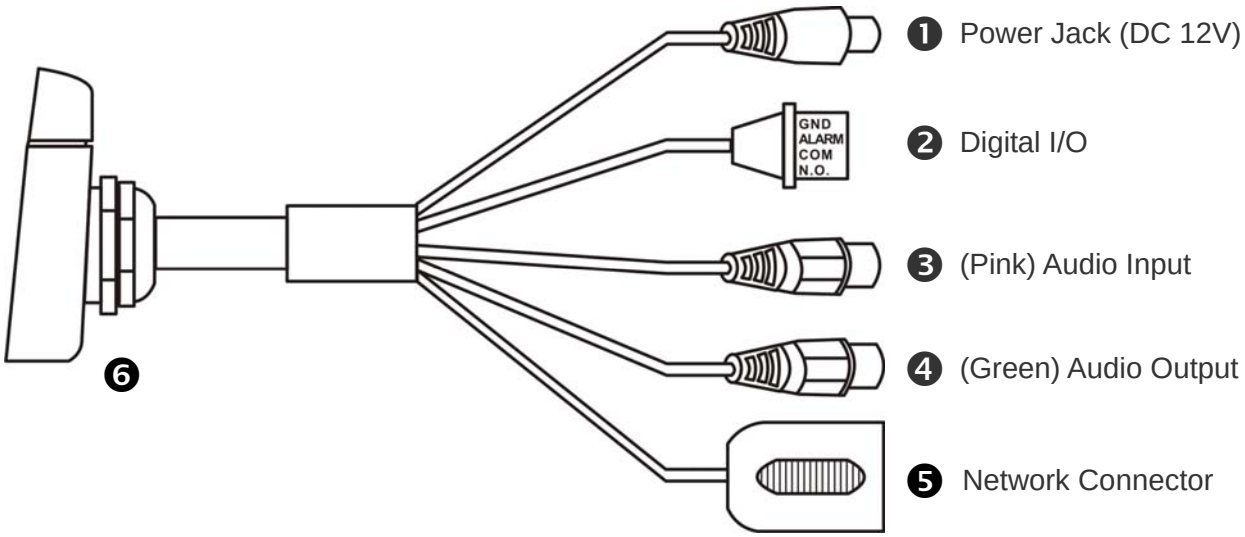
Video Format	Video (AVI), Snapshot (JPEG)
Video Playback	Yes
Web browsing requirement	
OS	Windows 2000, XP, Vista, Windows 7
Web Browser	Microsoft IE V7.0 or above, Mozilla Firefox V5.0 or above, Opera V10 or above, Safari V4.0.5 or above, Google Chrome V5.0 or above
Suggested Hardware	Intel-C 2.0G, RAM: 512MB Graphic card: 64MB onboard RAM

* Specifications are subject to change without notice

3. Product Installation

A. Hardware Installation

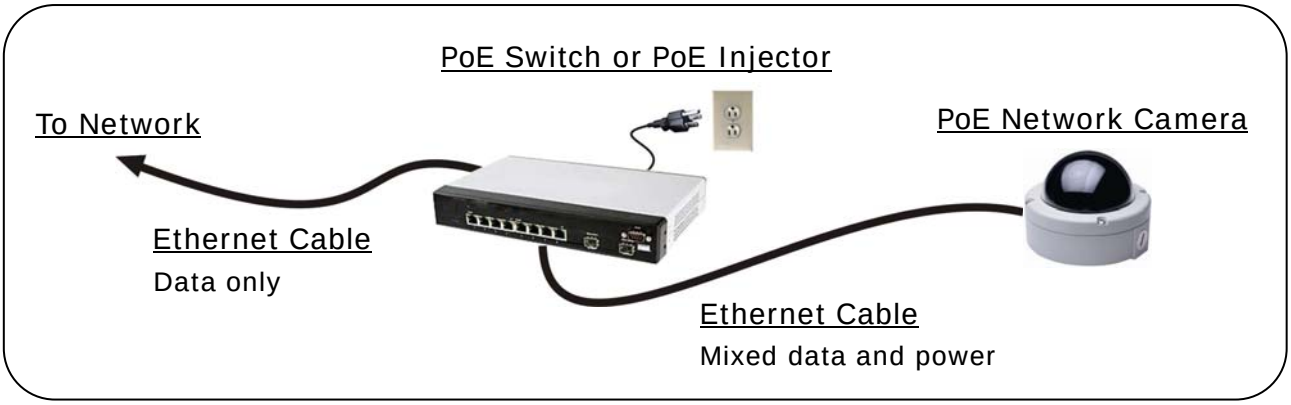
Cable Connections



❶ Power Jack:	To connect the included power adapter.
❷ Digital I/O:	Digital In and Relay Out.
❸ Audio Input (Pink):	The RCA connector allows connect to a microphone or audio source, the connected audio will be heard at the remote site.
❹ Audio Output (Green):	The RCA connector allows connect to an amplified speaker, you can hear the voice of the remote site from the speaker.
❺ Network Connector:	The RJ-45 connector allows connect the Ethernet cable.
❻ SD Card Slot (inside of the camera):	Insert a SD card if you want to do the event recording (video only) in the camera.

1. Connect the cable of Digital I/O, Audio output and Audio input if you want to use these functionalities.
2. Connect Ethernet cable for network connection.

3. Connect power adapter to turn on the camera.
4. If the camera is PoE model, the power adapter is not necessary. The camera will get the power from the Ethernet cable. Please follow the below figure for the connection.

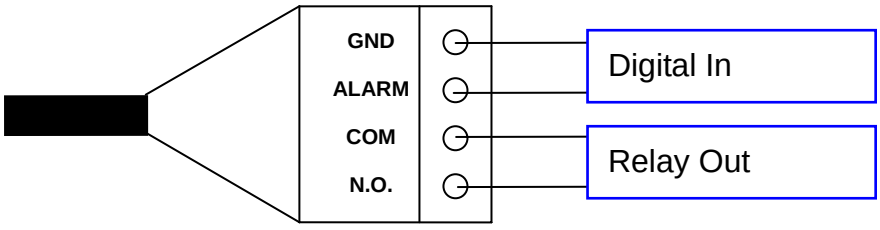


5. Set up the network configurations according to the network environment. For further explanation, please refer to Network Configuration chapter.

I/O Connections

I/O connector – used in application, for e.g., motion detection, event triggering, alarm notifications. It provides the interface to:

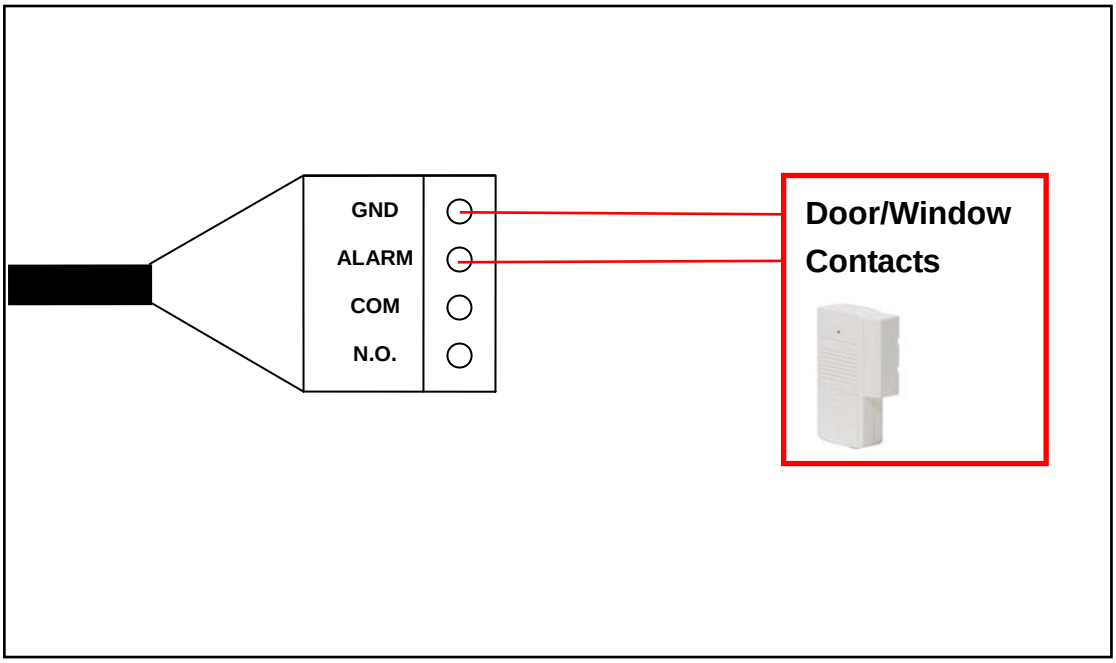
- 1 set of Digital Input (Alarm + GND) – The digital inputs for connecting devices that can toggle between an open and closed circuit, such as PIRs, door/window contacts, glass break detectors, etc. When a signal is received the status changes and the input becomes active.
- 1 set of Relay Output (N.O. + COM) – The output to Relay switch of the alarm device such as LEDs, Sirens, etc.



Digital Input (Alarm Input)

GND (Ground): Initial status is LOW.

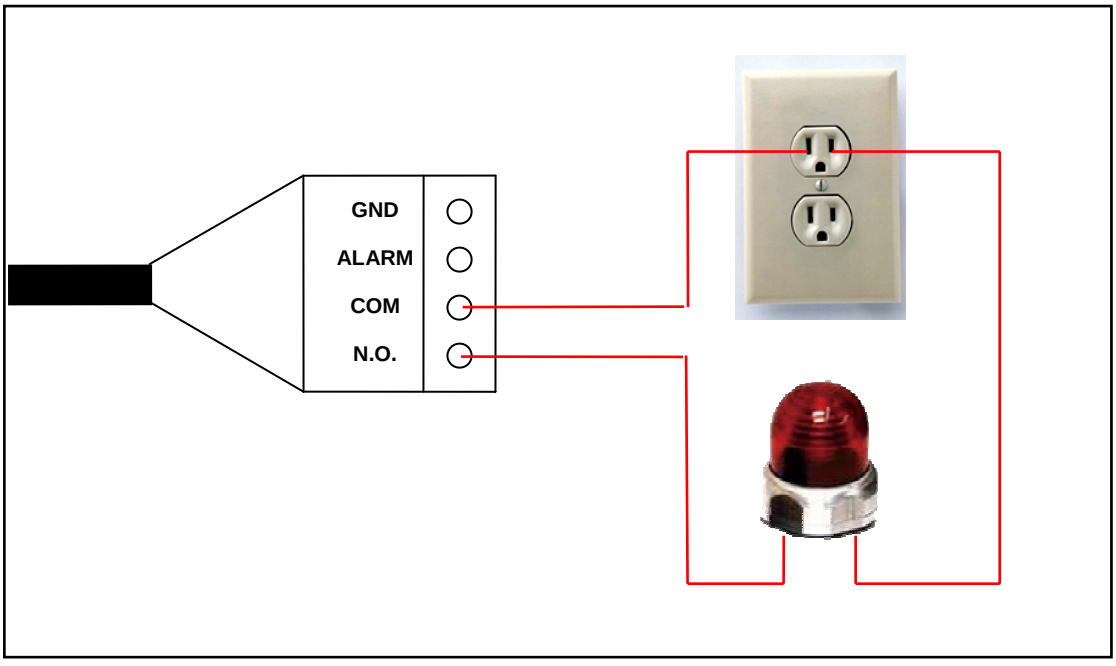
Alarm: Max. 50mA, 12VDC.



Relay Output

COM: Common pin.

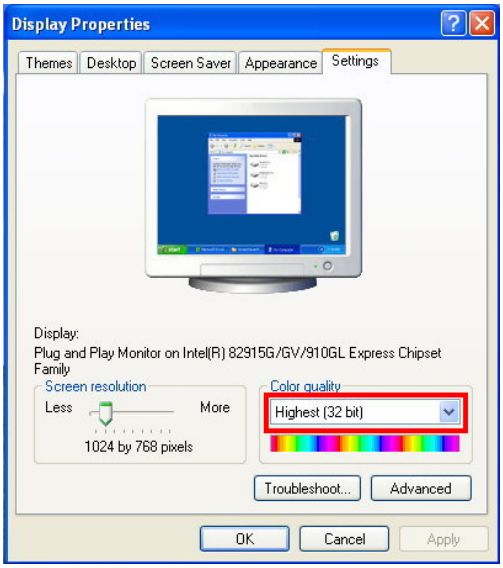
N.O. (Normally Open): Max. 1A / 24VDC or 0.5A / 125VAC.



B. Monitor Setting

1. Right-Click on the desktop. Select “Properties”

2. **Change color quality to “Highest (32bit)”**.



C. IP Assignment

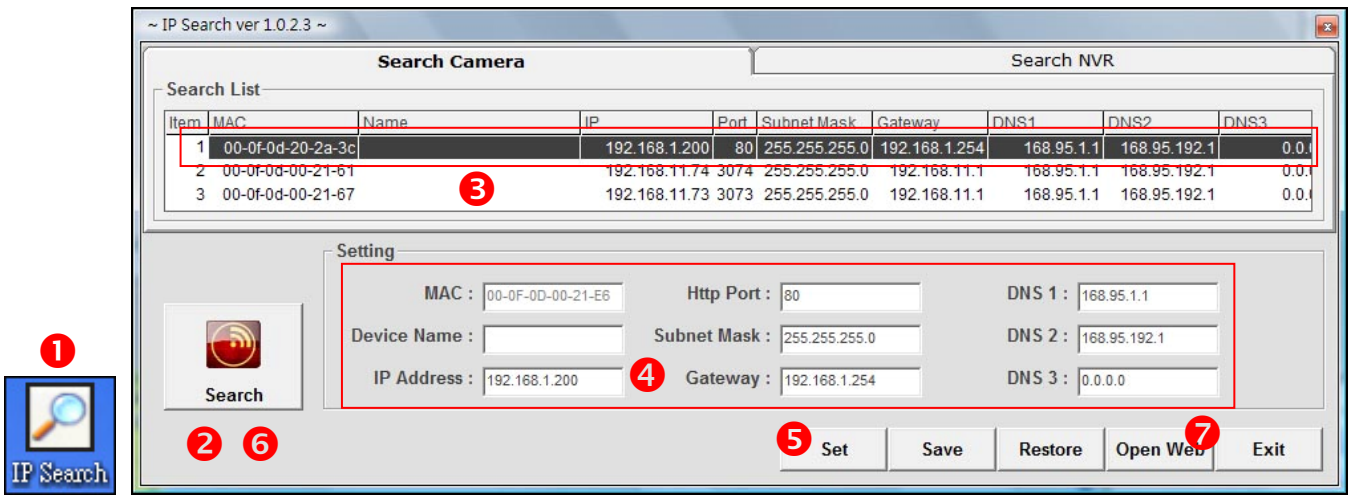
- Always consult your network administrator before assigning an IP address to your camera in order to avoid using a previously assigned IP address.
- MAC Address: Each network camera has a unique Ethernet address (MAC address) shown on the sticker of the camera.
- One final note, although the IP Search is able to find and configure any network camera on the LAN except those that are behind a router, it is a good idea to set the host PC to the same subnet. In order to connect to the Web-based user interface of the network camera, the host PC must be in the same subnet. For more information about subnets, please consult your network administrator.

There are 3 kinds of IP configuration:

- Fixed IP (Public IP or Virtual IP)
- DHCP (Dynamic IP)
- Dial-up (PPPoE)

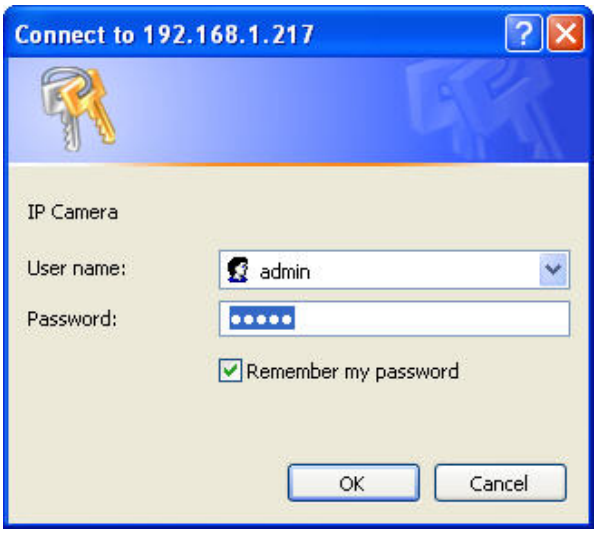
IP Search is a utility that provides an easier, more efficient way to configure the IP address and network settings of the network camera in Local Network (LAN). It even provides a convenient way to set the network settings for multiple devices simultaneously. Moreover, IP Search can save the network settings for all devices as a backup and restore them when necessary.
The software can be installed from the attached software CD.

1. Once IP Search has been successfully installed on the computer, double click the "IP Search" icon on the desktop.



2. IP Search searches all the network devices which connect to the intranet and lists on the window. Click **[Search]** button to search again.
3. From the list, select the device with the MAC Address that corresponds to the device that is to be configured.
4. Click and select one of the network devices, the network configuration of this device will show on the bottom, filling in the IP Address, Subnet Mask, Gateway and the others.
5. Click **[Set]** button to complete the configuration settings and save into the device.
6. Wait for 1 minute to let the device update the settings, and then click **[Search]** button again to re-search the network devices.
7. Click and select the network device listed on the window and click **[Open Web]** button. It will open an IE browser and connect to this device directly.
8. You can assign a name to identify the device. Type the name in “Device Name” field, click **[Save]** and then click **[Search]** button, the name will be displayed in the list.

4. Live Video



Start the IE browser, type the IP address of the network camera in the address field:

http://<IP of camera>

If the “Web Page Port” has been changed from “80”, type the URL as:

http://<IP of camera>:<Web Page Port>

After link to the camera, it will show a dialogue box. Key-in the user name and password to log-in and open the web page of camera.

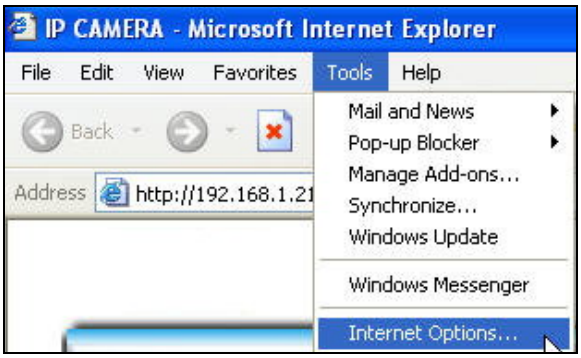
The default user name and password are “**admin**” and “**admin**”.

For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

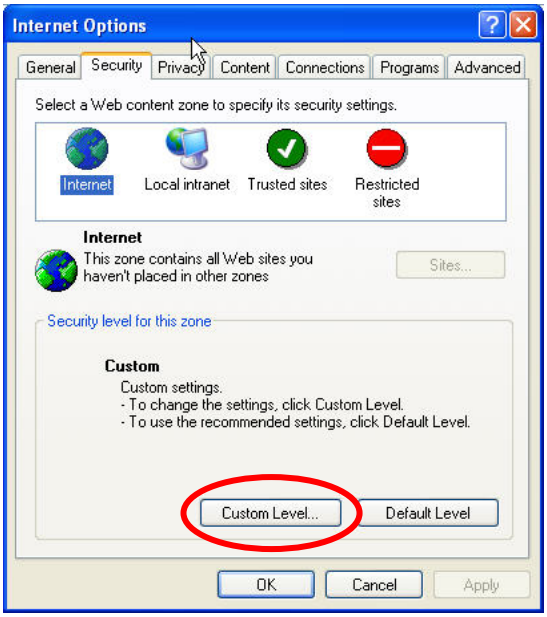
If the installation failed, please check the security setting for the IE browser.

1. In IE, click on **[Tools]** → **[Internet Options…]**
2. Click on **[Security]** Tab → **[Custom Level…]**
3. In Security Settings, under **[Download unsigned ActiveX controls]**, select “Enable” or “Prompt”.
4. In Security Settings, under **[Initialize and script ActiveX controls not marked as safe]**, select “Enable” or “Prompt”.
5. When pop-up window with warning message, click **[Yes]** to save the settings.

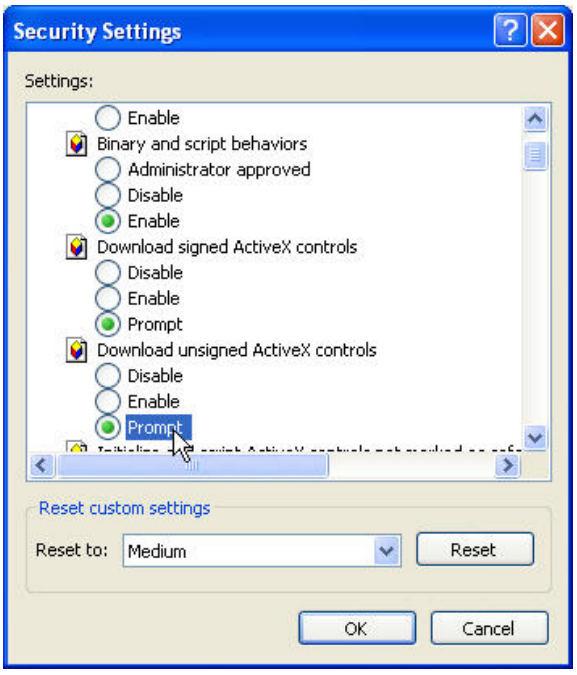
1



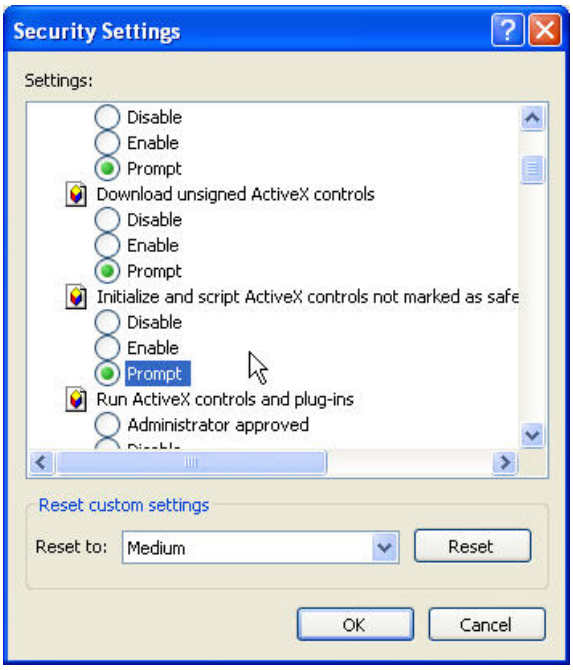
2



3

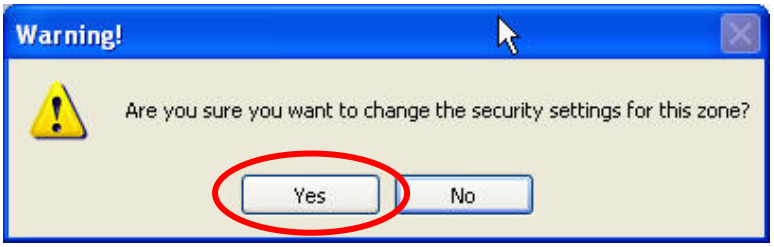


4



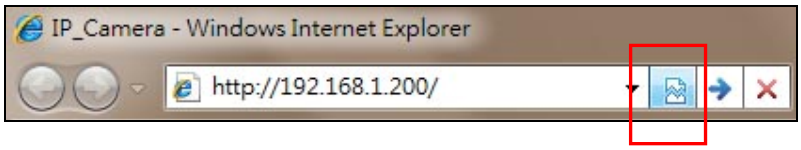
5

When popup the following dialogue box, click **[Yes]**.



The web page of the device shows as following.

If you are using IE 8.0 or above, please click “Compatibility View” icon to make this web page works properly:



❶ **Streaming :** Select the streaming 1 or 2 from the pull-down list to display.

❷ **Language :** Change the display language temporarily.

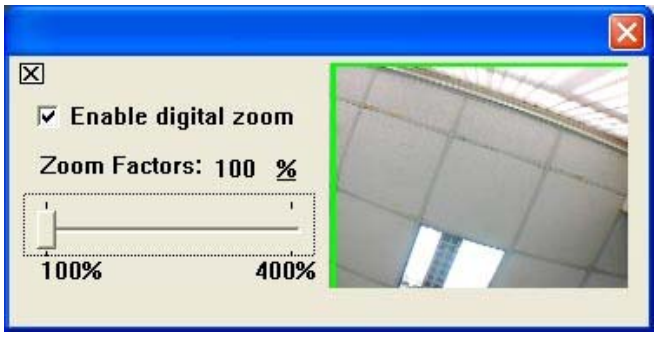
Note: The display language is changed temporary, and it doesn’t change the default language. To change the default language, please go to Configuration → System Information page.

❸ **Configuration :** Go into the configuration page to set the parameters if necessary.

❹ **Status Bar :** Shows system date/time, video resolution and video refresh rate (FPS).

❺ **Online Visitor :** Shows how many users connect to this network camera.

❻ **Function Buttons :** Click these buttons will perform the following functions.

	Fit to Window : Resize the video to fit the window for view. Click this button again to back to the original size.
	Full Screen : Click this button or double-click the video, the video will change to full screen mode. Press **[Esc]** key or double-click the video again, it will back to normal mode.
	Snapshot : Click this button to take snapshot of the video. The image will be displayed in a pop-up window, click to save as a jpg picture.
	Record : Click this button to record the video into the local PC. It will ask you where to save the video. To stop recording, click this button again. The saved video format is AVI. The recorded file can be played by Microsoft Media Player. Note, MPEG4 decoder must be installed to play the recorded file. You can install “FFdshow” from the included CD for the decoder.
	Chatting : The camera supports 2-way audio. Click this button, then you can use microphone which connected to the PC to talk to the camera side.
	Voice : Click this button to turn on the audio from camera. Click again to turn off it.
	Digital Zoom : Click this button, a pop-up window appears. You can enable / disable the digital zoom, and adjust the ratio. 
	Relay Out (ON/OFF Switch) : Click the button to manually turn on / off the Relay via the built-in Digital Out.

Relay Out (Time Switch) : Click the button to manually turn on the Relay via the built-in Digital Out, after the interval time is passed, the Relay will be turned off automatically. The interval time can be set up in Configuration ➞ Event Handling ➞ I/O.

5. Configuration

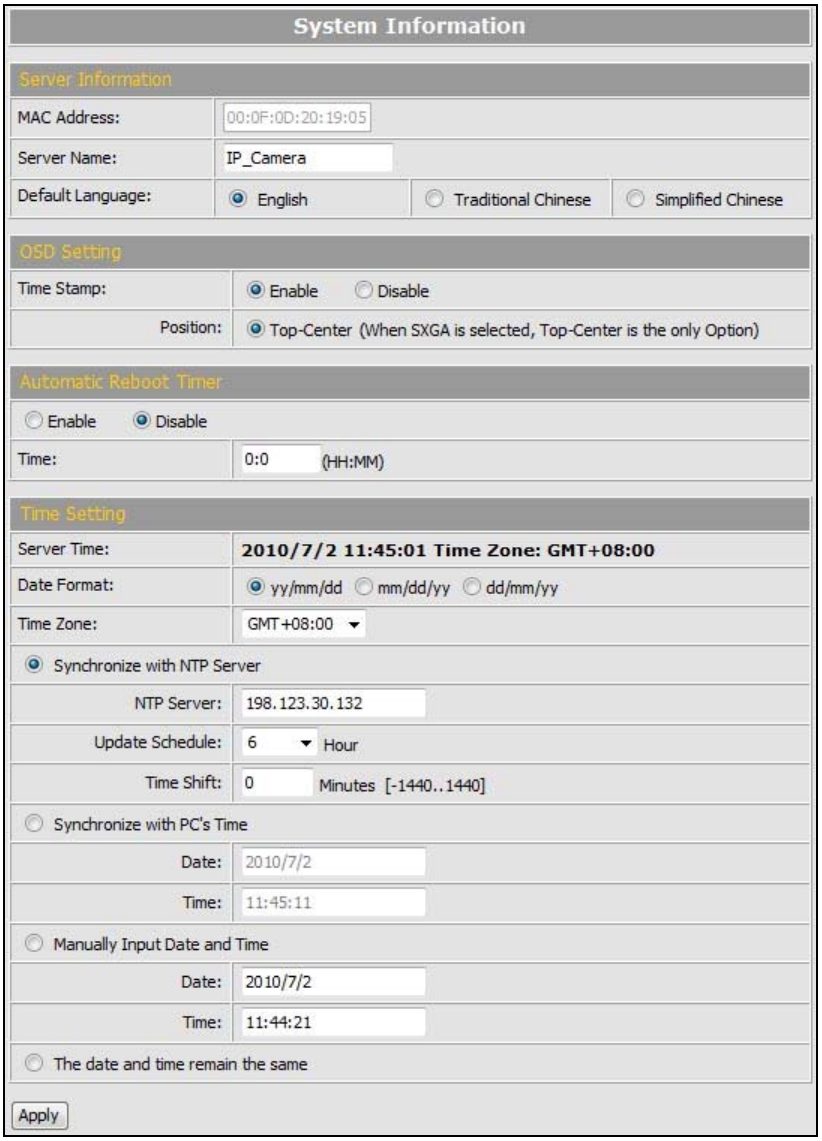
Click **[Configuration]** button to get into the configuration page. Click **[Live View]** button to back to the Live-View page.

A. System

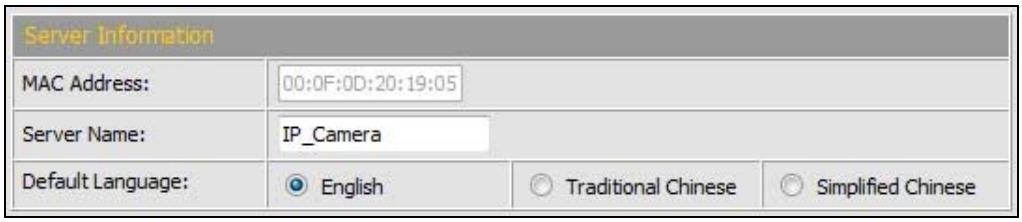
System Information

Set up the camera name, select language, and set up the camera time.

System Information



Server Information

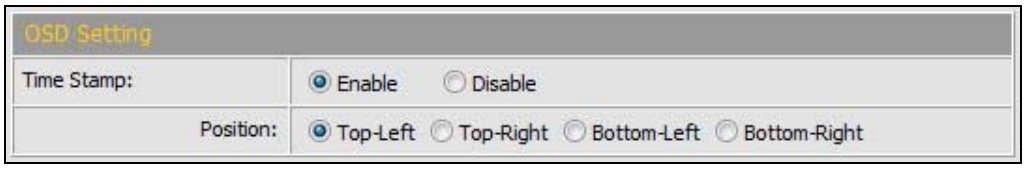


MAC Address: The MAC address of the Ethernet network card in the device.

Server Name: You can type a name into this field to identify this device.

Default Language: Select the default language for the user interface.

OSD Setting

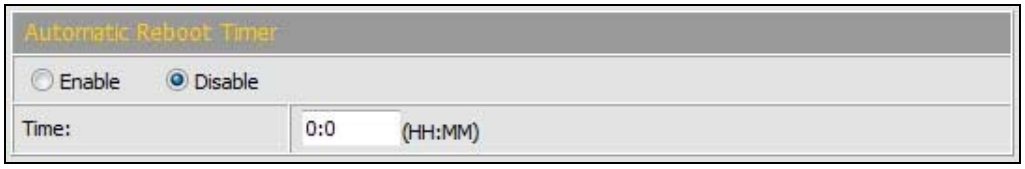


Time Stamp: Enable this option will display the date and time on the video.

Position: Select the display position of Time stamp.

Note: When SXGA (1280x1024) resolution is selected, Top-Center is the only position for OSD.

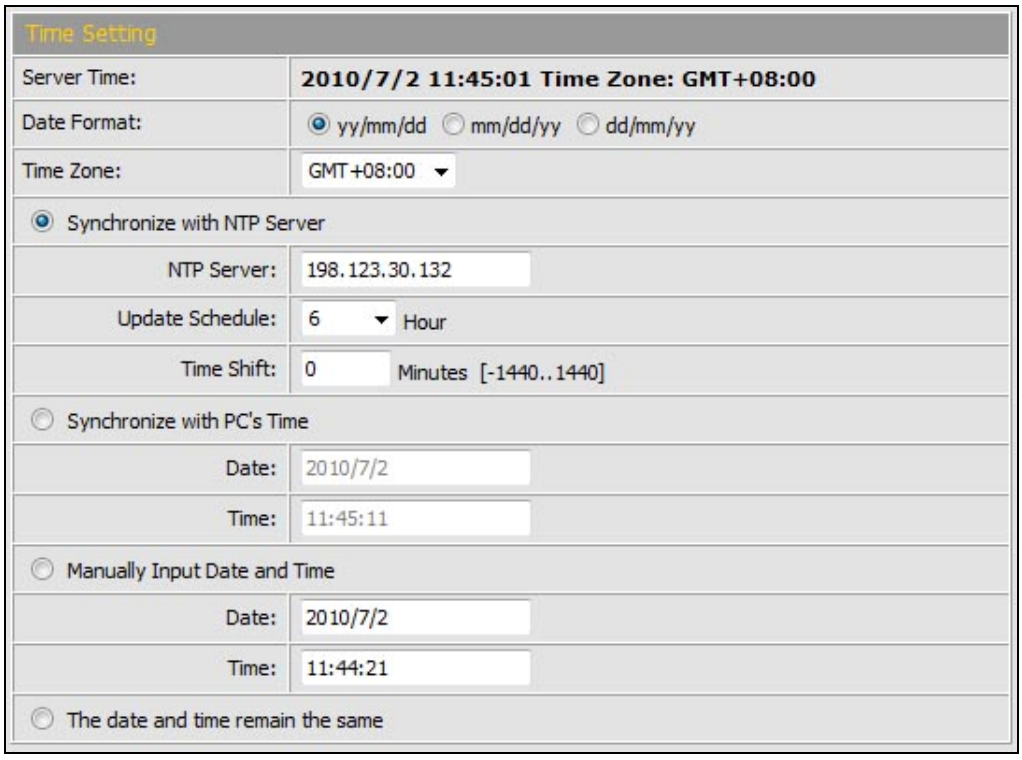
Automatic Reboot Timer



By enabling this function, the camera will be rebooted at the scheduled time every day. This will keep the camera more stable.

Time: Type the time in the field to setup the schedule for reboot.

Time Setting



Date Format: Select the format to display the date.

Time Zone: Select the GMT to match your time zone.

Synchronize with NTP Server: Select this option and type the IP address of a NTP (Network Time Protocol) server, this device will synchronize the time with the NTP server via network.

- NTP Server: Type the IP address or URL of the NTP server.
- Update Schedule: Select the interval for the update time. For example, if select “6 Hours”, this device will synchronize the date and time with the NTP server every 6 hours.

Synchronize with PC’s time: Select this option will synchronize the device time with the PC’s time.

Manually Input Date and Time: Manually input the date and time.

The date and time remain the same: Keep the current date and time without change.

*After set up, click **[Apply]** to save the settings.*

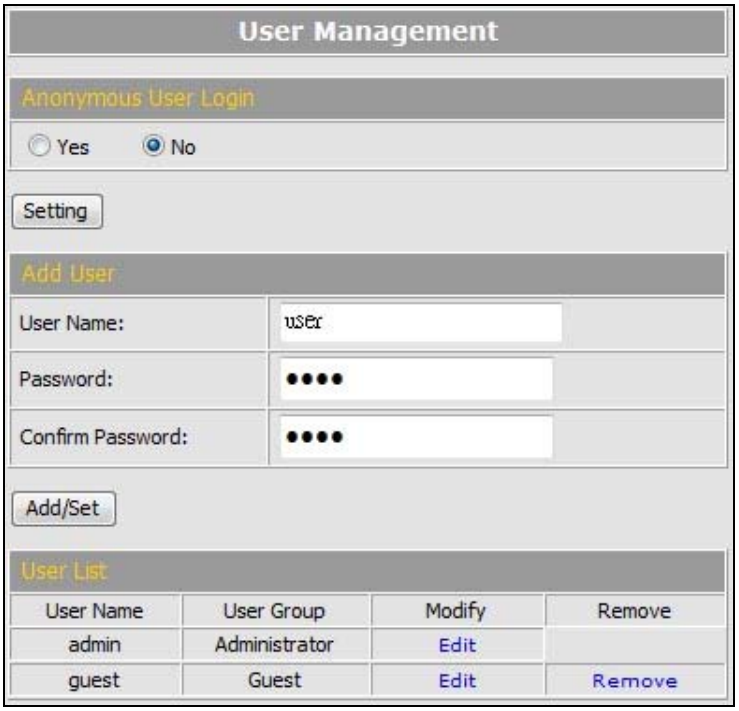
User Management

You can add, remove and manage the users in this page.

This device supports 3 user groups:

- Administrator: The administrator can view, operate and configure all functions and settings of this device.
- Guest: The users in Guest group can only view the live video in Live-View page.
- Anonymous: The anonymous user can only view the live video in Live-View page. The privilege is same as Guest group.

User Management



Anonymous User Login

To allow user visit this device without login, select **[Yes]** and then click **[Setting]** to enable this function.

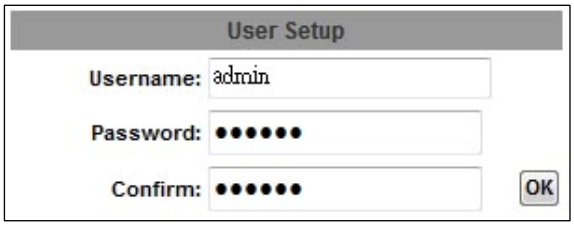
Add User

To add a new user, type the user name and password, then click **[Add/Set]** to save the user.

User List

This table lists the current users.

Edit: To change the username and password, click **[Edit]** and modify the administrator or user in the pop-up window.

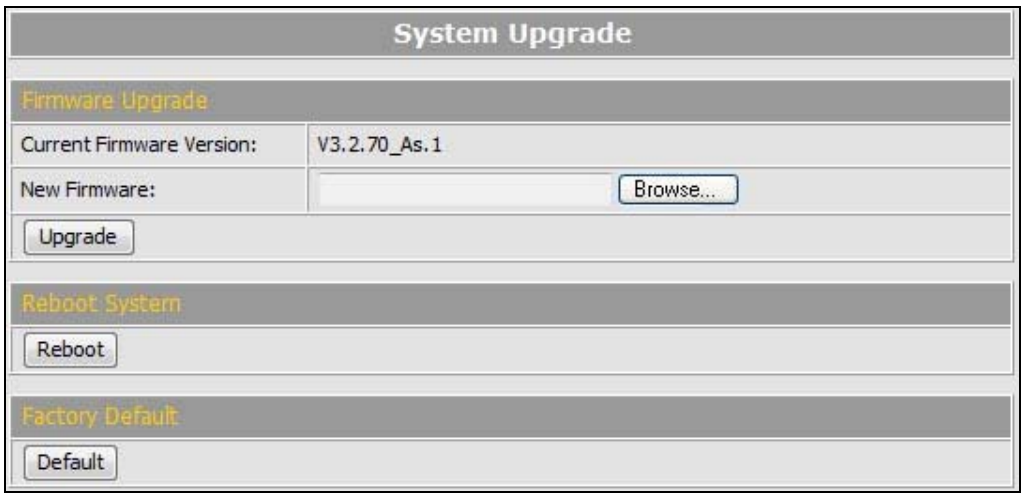


Remove: To remove the user, click **[Remove]**.

System Upgrade

This page allows user to upgrade firmware, restart device and restore the factory default settings.

System Upgrade



Firmware Upgrade

The firmware can be upgraded online.

To update the firmware, click **[Browse…]** to select the new firmware file, and then click **[Upgrade]** to the procedure.

Reboot System

To restart the device, click **[Reboot]** and then click **[Yes]** on the prompted window.

Factory Default

To load the factory defaults, click **[Default]** and then click **[Yes]** on the prompted window. Note, all settings including User account, Network, A/V and Event settings will be restored to the factory defaults.

System Logs

System Logs

System Logs	
System Status Logs:	View
Motion Trigger Logs:	View
Digital-In Trigger Logs:	View
All Logs:	View

System Status Logs

Click the **[View]** button on the right side to list the logs of system status.

Motion Trigger Logs

Click the **[View]** button on the right side to list the logs of motion detection.

Digital-In Trigger Logs

Click the **[View]** button on the right side to list the logs of digital input detection.

All Logs

Click the **[View]** button on the right side to list all logs.

B. Video/Audio Setting

Image Setting

Image Setting

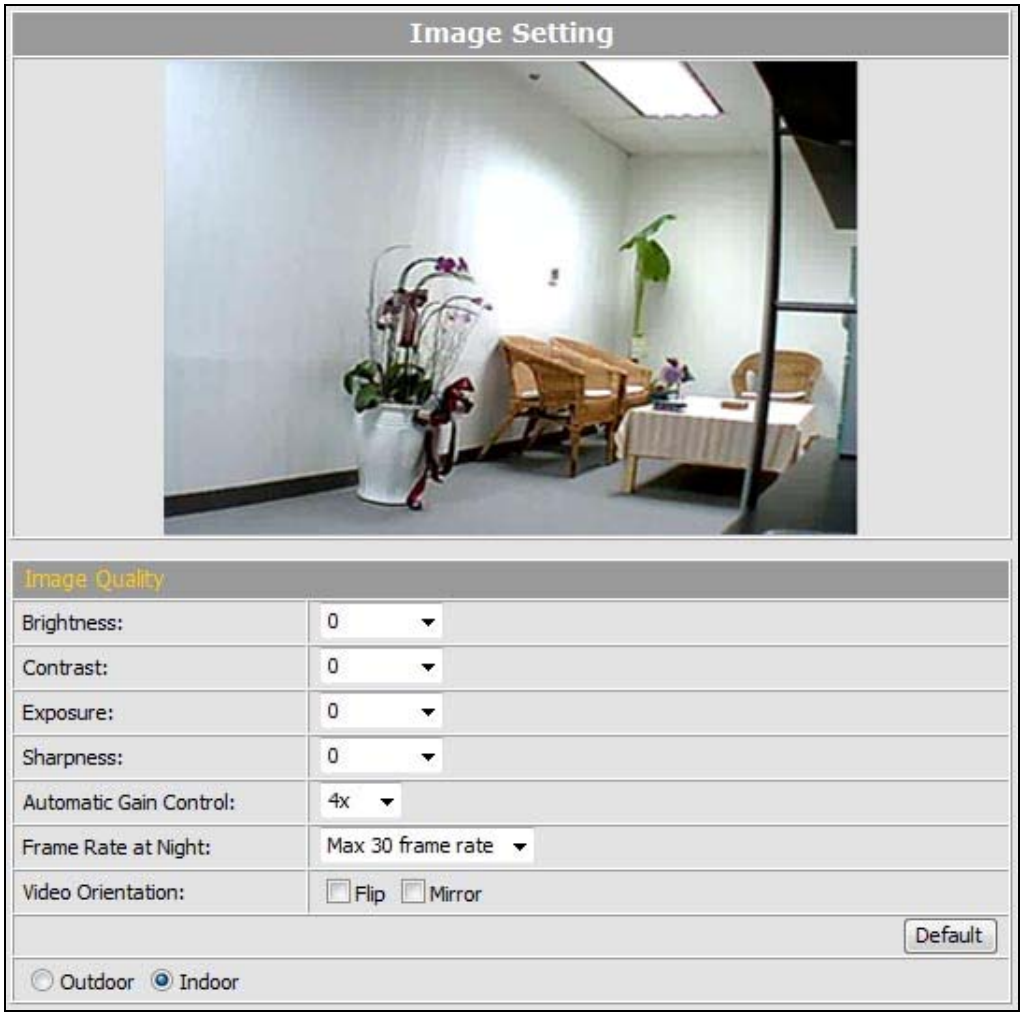


Image Quality

Brightness / Contrast / Exposure / Sharpness: Adjust these parameters to get clear video.

Automatic Gain Control: Adjust this function according to the environment.

Frame Rate at Night: This function can be set at different Frame rate to increase night illumination. Set lower frame rate will slower the frame refresh rate, but will enhance the night illumination. Night mode will be activated automatically depending on lux illumination, if set at 15 frame rate, when night mode activated at low lux, the frame rate will not be more than 15FPS.

Video Orientation: Change the orientation to display the video.

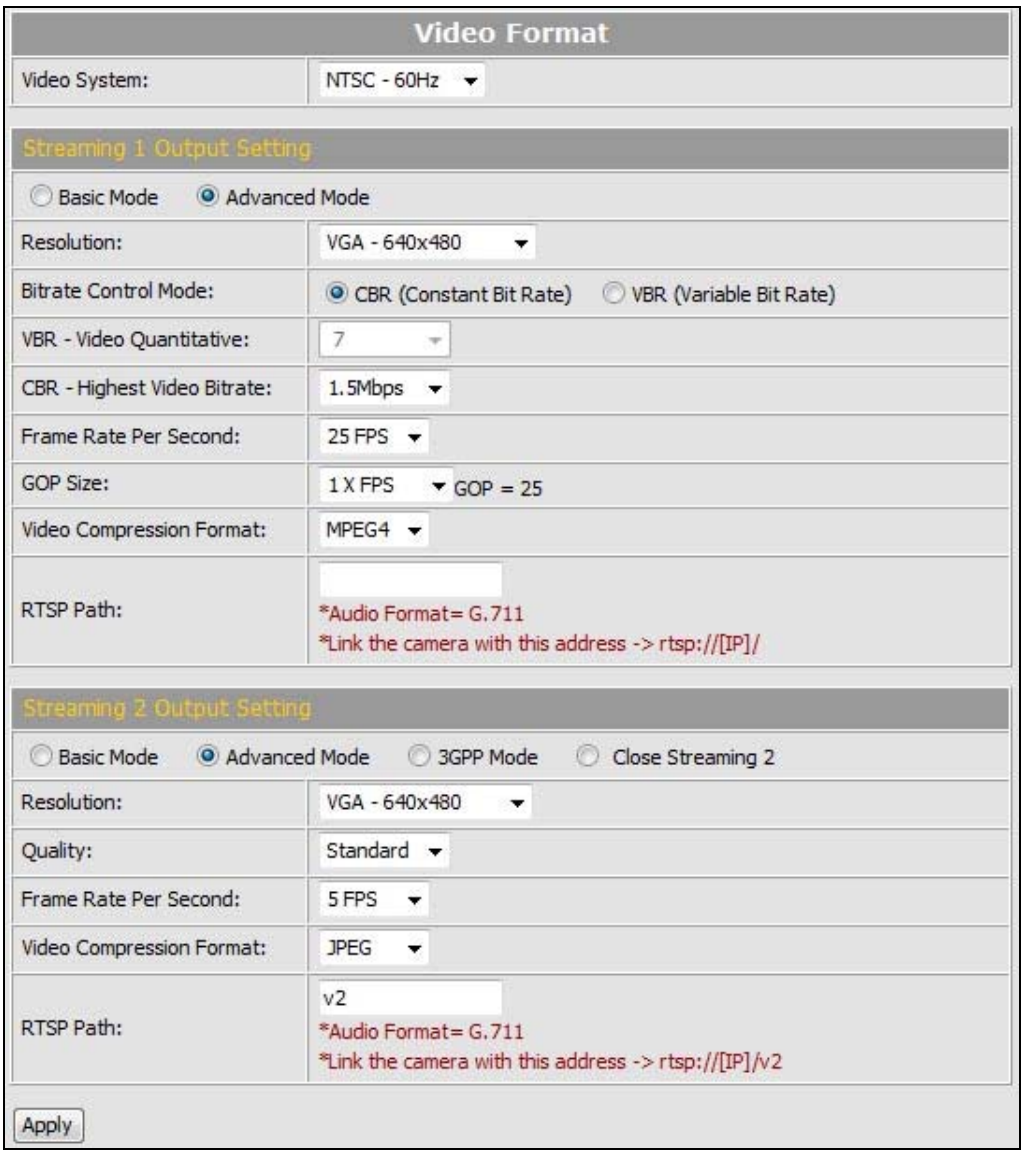
Default: Click **[Default]** button will load the default settings for above options.

Outdoor/Indoor: This camera supports “Auto Electronic Shutter” to adjust the image for outdoor or indoor usage, select this option according to the environment.

Video Format

This device supports MPEG4/MJPEG Dual Mode and Dual Streaming, set the video parameters in this page.

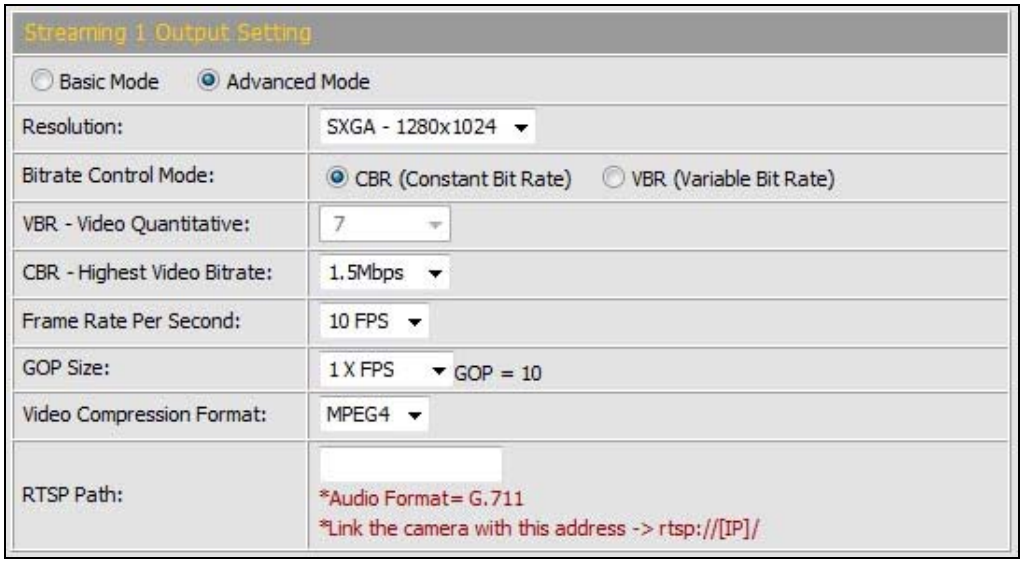
Video Format



Video System

Video System: Select NTSC-60Hz or PAL-50Hz to match your local video system.

Streaming 1 Output Setting



Basic / Advanced Mode: Select the mode to configure the parameters. Advanced mode provides more detail parameters for setting.

Resolution: Select the resolution from the pull-down list.

- SXGA – 1280x1024 (Up to 10FPS)
- VGA – 640X480 (Up to 30FPS / 25FPS)
- QVGA – 320X240 (Up to 30FPS / 25FPS)
- QQVGA – 160X120 (Up to 30FPS / 25FPS)

Frame Rate Per Second: The video refreshing rate per second. Select the frame rate from the pull-down list.

Video Compression Format: Choose MPEG4 or JPEG format to compress and output the video stream.

MPEG4: The video stream will be compressed in MPEG4 format. Choose CBR (Constant Bit Rate) or VBR (Variable Bit Rate) in Bitrate Control Mode.

- CBR: Set the Video Bitrate from 32Kbps ~ 2Mbps depend on the upload bandwidth of network. The data size of video stream will be limited under the selected bit rate.
- VBR: Set the Video Quantitative from 1 ~ 10, the higher value will get better video quality. The data size of video stream is no limitation, if the upload bandwidth of network is lower than the data size, the video will be displayed slowly.
- GOP Size: Set the GOP (Group of Picture) size. If you don't know what

value should be set, please set it to “1XFPS”.

JPEG: The video stream will be compressed in MJPEG format.

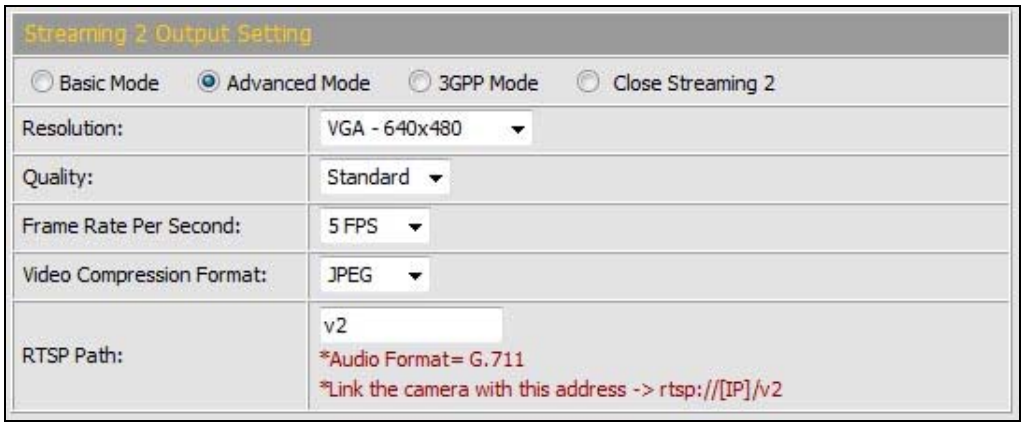
- Quality: 5 levels for select. The higher quality will get bigger file size.

RTSP Path: Assign a name to identify this video stream. When view the video stream with RTSP connection, the URL should be “rtsp://<Public IP of this device>:<RTSP port>/<RTSP path>”.

Streaming 2 Output Setting

This device supports Dual Streaming, you can enable and configure the streaming 2.

Note: when the Resolution of streaming 1 is SXGA, it is not allowed to enable the streaming 2. Please select VGA, QVGA or QQVGA as the Resolution for streaming 1 first.



Mode: Select the mode to enable or disable the streaming 2.

- Basic / Advanced Mode: Enable and configure the streaming 2. Advanced mode provides more detail parameters for setting.
- 3GPP Mode: Enable the streaming 2 as 3GPP mode, it allows a 3G mobile phone to view the live video.
- Close: Disable the streaming 2.

Resolution: Select the resolution from the pull-down list.

- VGA – 640X480
- QVGA – 320X240
- QQVGA – 160X120

Frame Rate Per Second: The video refreshing rate per second. The total frame rate of streaming 1 and 2 is up to 30FPS (NTSC) / 25FPS (PAL). Before set the frame rate

of streaming 2, you have to decrease the frame rate of streaming 1, and then set the frame rate of streaming 2.

Video Compression Format: Choose MPEG4 or JPEG format to compress and output the video stream.

MPEG4: The video stream will be compressed in MPEG4 format. Choose CBR (Constant Bit Rate) or VBR (Variable Bit Rate) in Bitrate Control Mode.

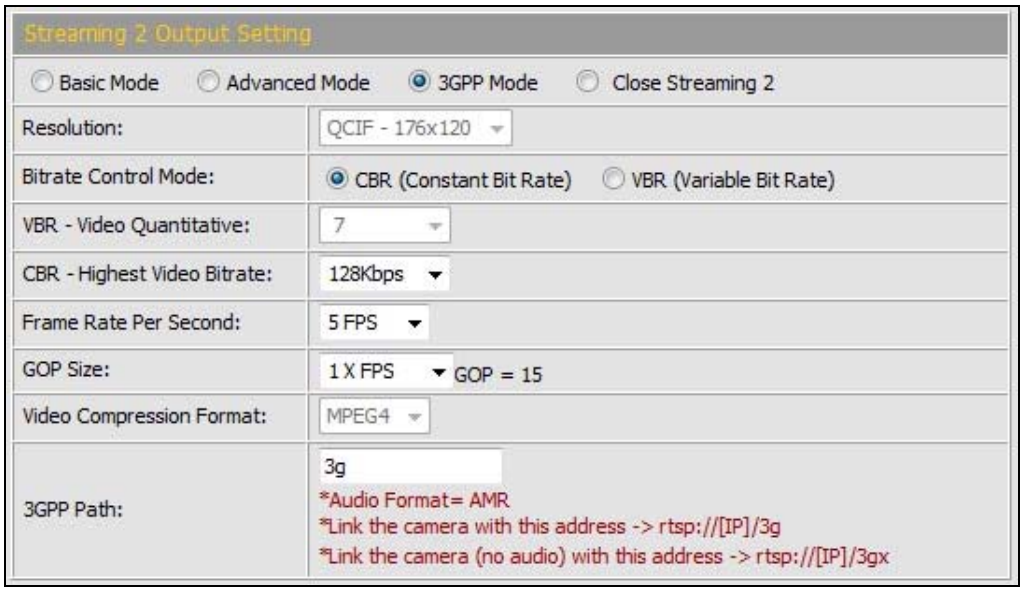
- CBR: Set the Video Bitrate from 32Kbps ~ 2Mbps depend on the upload bandwidth of network. The data size of video stream will be limited under the selected bit rate.
- VBR: Set the Video Quantitative from 1 ~ 10, the higher value will get better video quality. The data size of video stream is no limitation, if the upload bandwidth of network is lower than the data size, the video will be displayed slowly.
- GOP Size: Set the GOP (Group of Picture) size. If you don't know what value should be set, please set it to "1XFPS".

JPEG: The video stream will be compressed in MJPEG format.

- Quality: 5 levels for select. The higher quality will get bigger file size.

RTSP Path: Assign a name to identify this video stream. When view the video stream with RTSP connection, the URL should be "rtsp://<Public IP of this device>:<RTSP port>/<RTSP path>".

3GPP (Streaming 2) Output Setting



After configure the streaming 2 as 3GPP mode, it will enable this device to send out the video in 3GPP format, and you can view the live video on the 3G mobile phone. The frame rate of streaming 1 is up to 15FPS (NTSC) / 12FPS (PAL) when the 3GPP mode is enabled.

Since the bandwidth of 3G is not fast usually, recommend set to the following configuration:

- Resolution – Fixed to QQVGA - 160x120.
- Bitrate Control Mode – CBR.
- CBR Bitrate – 128Kbps or lower.
- Frame Rate Per Second – 5FPS.
- GOP Size – 1XFPS.
- Video Compression Format – Fixed to MPEG4.
- 3GPP Path – Assign “3g” as the name.

To view the live video with a 3G mobile phone or PDA, open “Streaming Player” or web browser in the mobile phone, type the URL as following to link and view the live video:

rtsp://<Public IP of camera>:<RTSP port>/<3GPP path>

* <Public IP of camera>: The public IP address of the camera.

* <RTSP port>: The RTSP port of the camera. This port is assigned in Configuration ➝ Network Setting ➝ Network Setting

* <3GPP path>: The name of the 3GPP video stream.

If your 3G mobile phone or PDA does not support the viewing of RTSP streaming, you can view the camera with http connection. To do this, use a Java compliant browser such as Opera, and type the URL as following to link and view the live video:

http://<Public IP of camera>:<HTTP port>/Jview.html

* <Public IP of camera>: The public IP address of the camera.

* <HTTP port>: The HTTP port of the camera. This port is assigned in Configuration ➝ Network Setting ➝ Network Setting

Note: Do not use the IE browser in 3G mobile phone because it doesn’t support Java.

*After set up, click **[Apply]** to save the settings.*

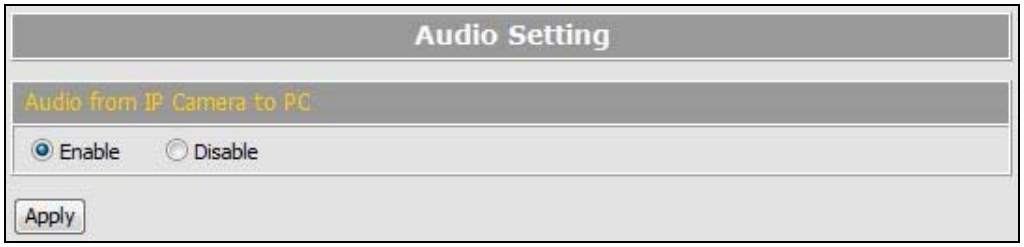
Audio Setting

This device supports 2-way audio. Note, the audio will not be smooth when enable SD card recording function simultaneously.

Audio from Device to Local PC

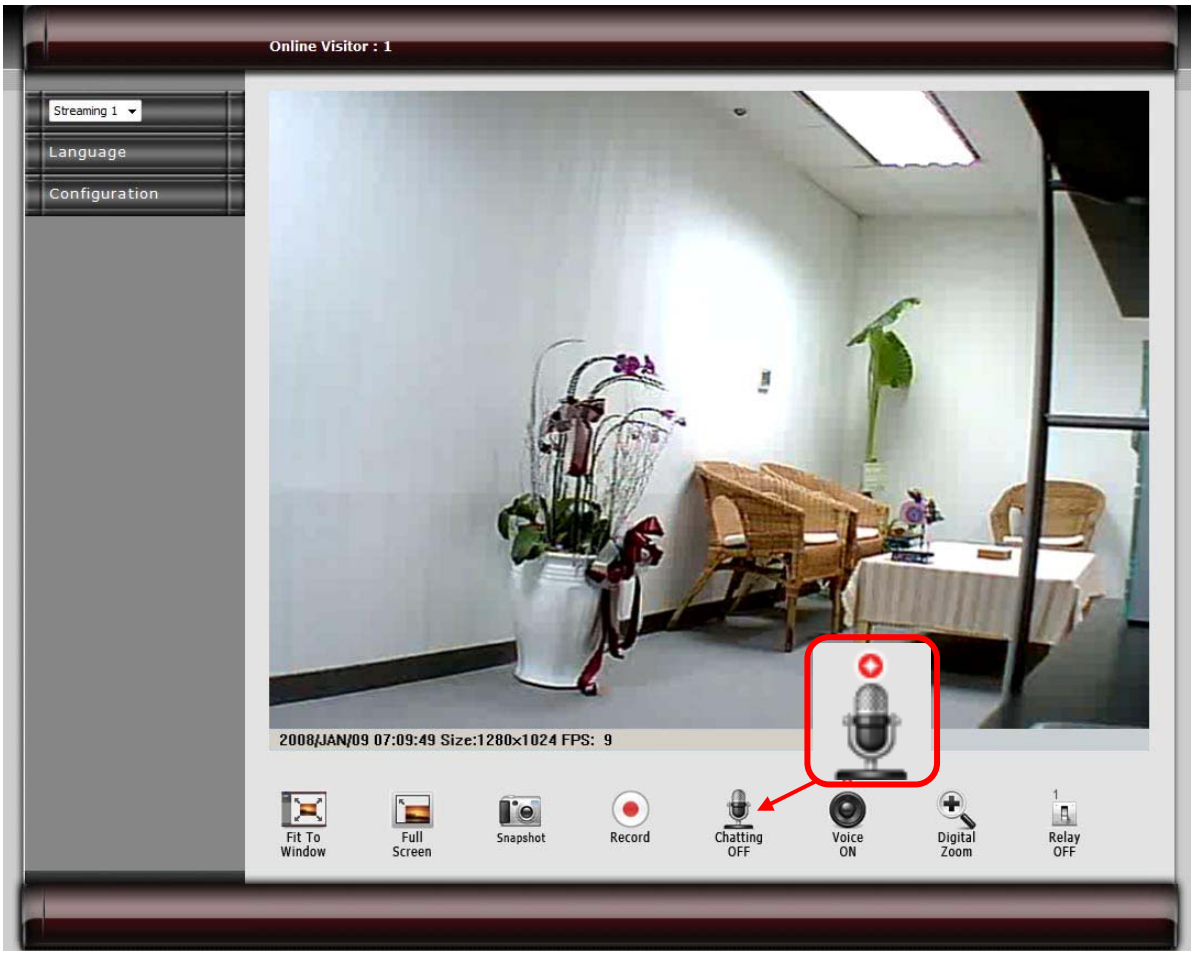
For this device to local PC, select **[Enable]** and then click **[Apply]** to start this function. If set to **[Disable]**, the **[Voice]** icon on Live View page is not workable.

Audio Setting



Audio from Local PC to This Device

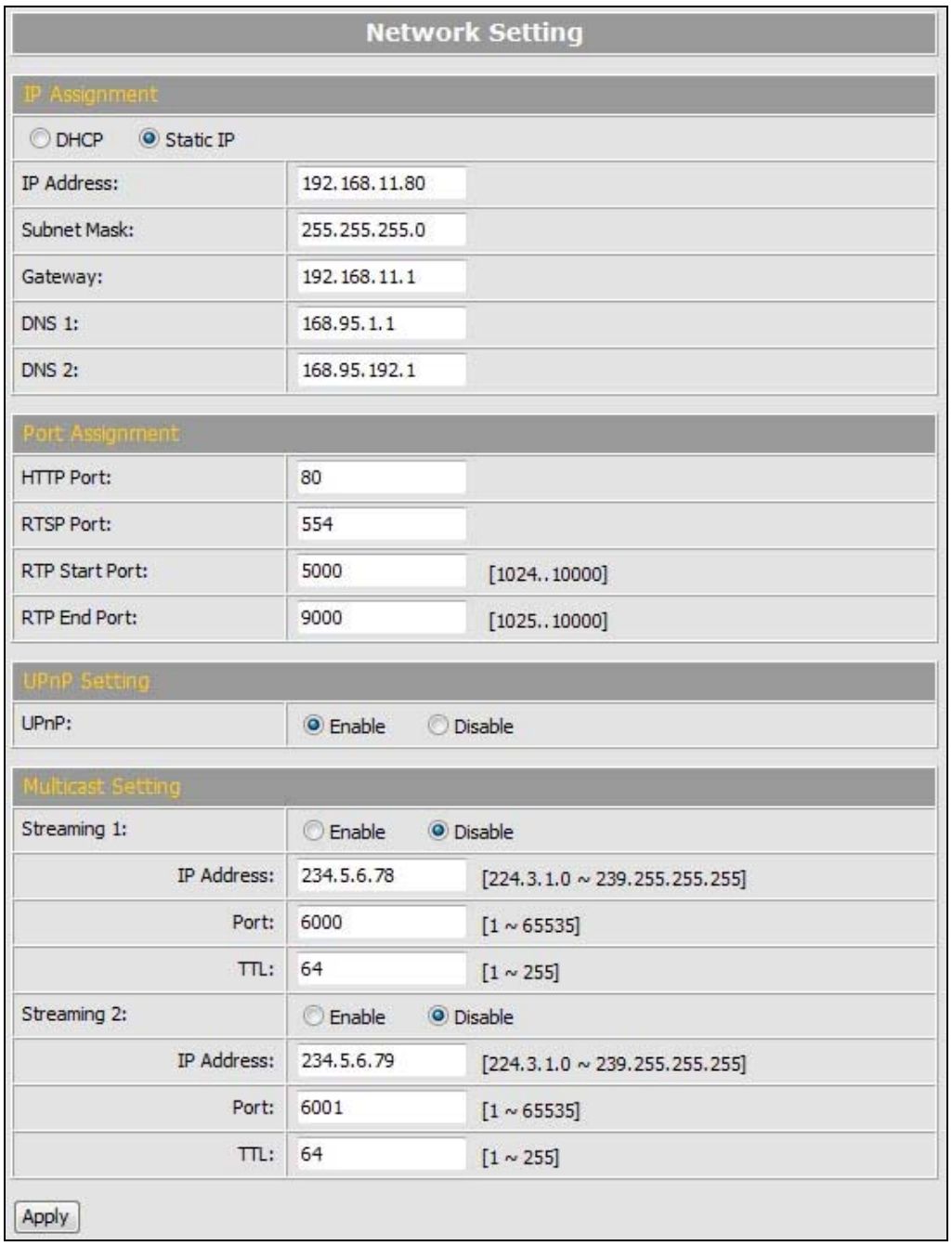
For local PC to this device, click **[Chatting]** icon on the Live View page.



C. Network Setting

Network Setting

Network Setting



IP Assignment

DHCP: If this device behinds a router and the router provides DHCP service, using DHCP, this device will get all network parameters from the router automatically.

Static: Assign IP address, subnet mask, gateway, and DNS manually.

Port Assignment

Set the ports if necessary. If this device will be connected via Internet, configure the NAT (Network Address Translation) in router to match the port assignment.

HTTP Port: Set the port for HTTP connection. The default is “80”, change the port if you want to use router’s NAT (Network Address Translation) to make this device can be linked from Internet.

RTSP Port: Set the port for transfer the video and audio. The default is “554”, change the port if you want to use router’s NAT (Network Address Translation) to make this device can be linked from Internet.

RTP Port: Set the port range of RTP port.

In RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port. UDP connection uses RTP Start and End Port.

UPnP Setting

UPnP: Enable or disable the UPnP protocol.

This device supports UPnP, if the UPnP service is enabled on your computer, the device will automatically be detected and a new icon will be added to “My Network Places”.

Note: UPnP service must be enabled on your computer.

The Windows Vista and Windows 7 have enabled UPnP service by default. To activate UPnP service in Windows XP, please follow the procedure:

1. Open the “Control Panel” from the “Start” menu.
2. Select “Add/Remove Programs”.
3. Select “Add/Remove Windows Components” and open “Networking Services” section.
4. Click “Details” and select “UPnP” to setup the service.
5. The network device icon will be added to “My Network Places”.
6. You may double-click the network device icon to access it via IE browser.

Multicast Setting

Multicast addressing is a network technology for the delivery of streaming to a group of destinations simultaneously using the most efficient strategy to deliver the messages over each link of the network only once, creating copies only when the links to the multiple destinations split. To implement the Multicast, a switch or router that

supports Multicast function is necessary in the network.

If your network supports Multicast, you can configure the device to enable this function by setup the following:

Enable / Disable: Enable or disable the Multicast function.

IP Address: This is the multicast group address the streaming should be sent to. You should configure each recipient with the same multicast group address and receive the streaming from this address. The range is 224.3.1.0 ~ 239.255.255.255

Port: The multicast port. The range is 1 ~ 65535

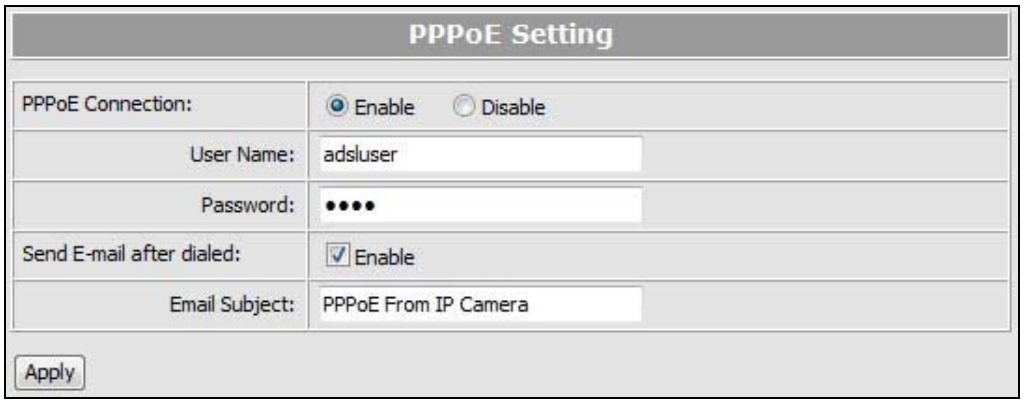
TTL: Time-To-Live (TTL) for Multicast Packets. This value decides how "far" from a sending host a given multicast packet should be forwarded.

*After set up, click **[Apply]** to save the settings.*

PPPoE Setting

If this device connects to an ADSL modem directly and want to use PPPoE connection, set the parameters in this page.

PPPoE Setting



PPPoE Connection

Select **[Enable]** to use PPPoE. Type in user name and password for the ADSL connection.

Send E-mail After Dialed

If select **[Enable]**, when connect to the Internet via PPPoE, this device will send a mail with the Subject to a specific mail account, this mail contains the public IP address of the ADSL connection.

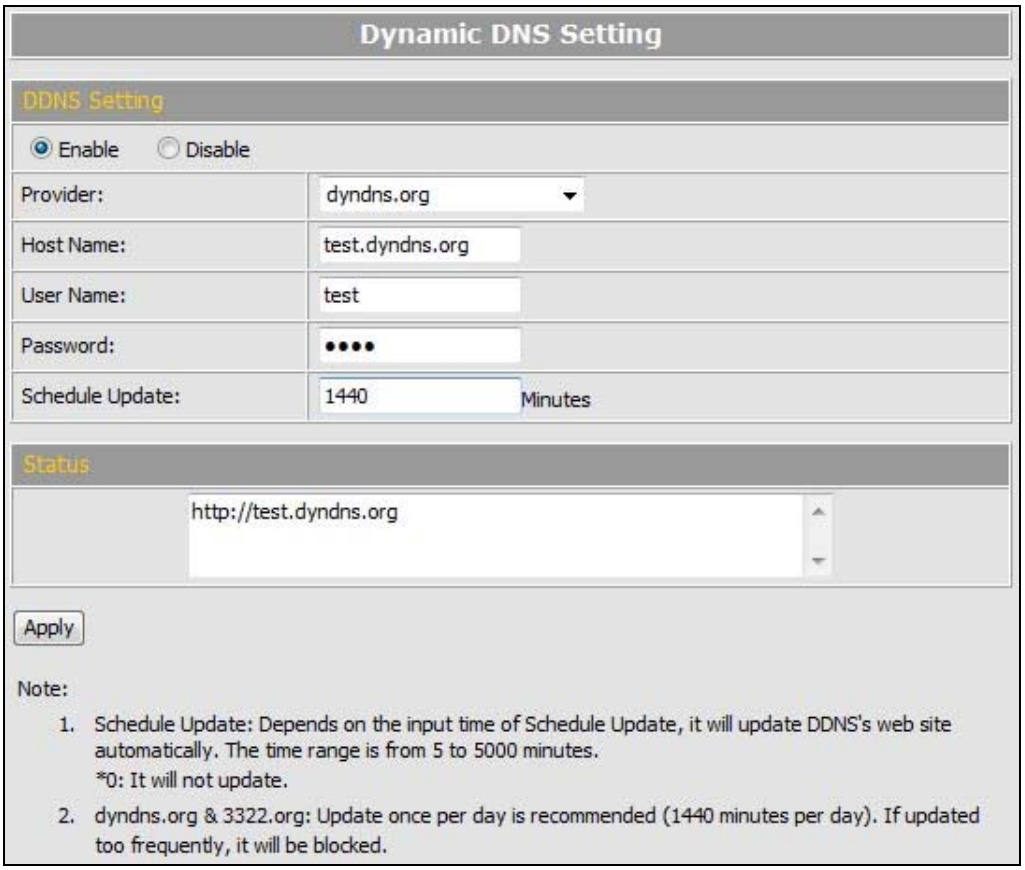
To set the mail account, please refer to Configuration ➙ Event Handling ➙ Mail&FTP page.

*After set up, click **[Apply]** to save the settings.*

DDNS Setting

This device supports DDNS, set the parameters in this page.

DDNS Setting



DDNS Setting

There are several DDNS providers can be selected. Select the provider from the pull-down list, input Hostname, User name, Password and the Schedule Update time, and then click **[Apply]** to connect to the DDNS provider.

Status

This field will display the message to indicate the status of DDNS service.

Updating: Information update.

Idle: Stop service.

http://<hostname (username)>.<provider>.com: DDNS registration successful, can now link to the camera with this URL address.

Update Failed, the name is already registered: The hostname or username has already been used. Please change it.

Update Failed, check your internet connection: Network connection failed.

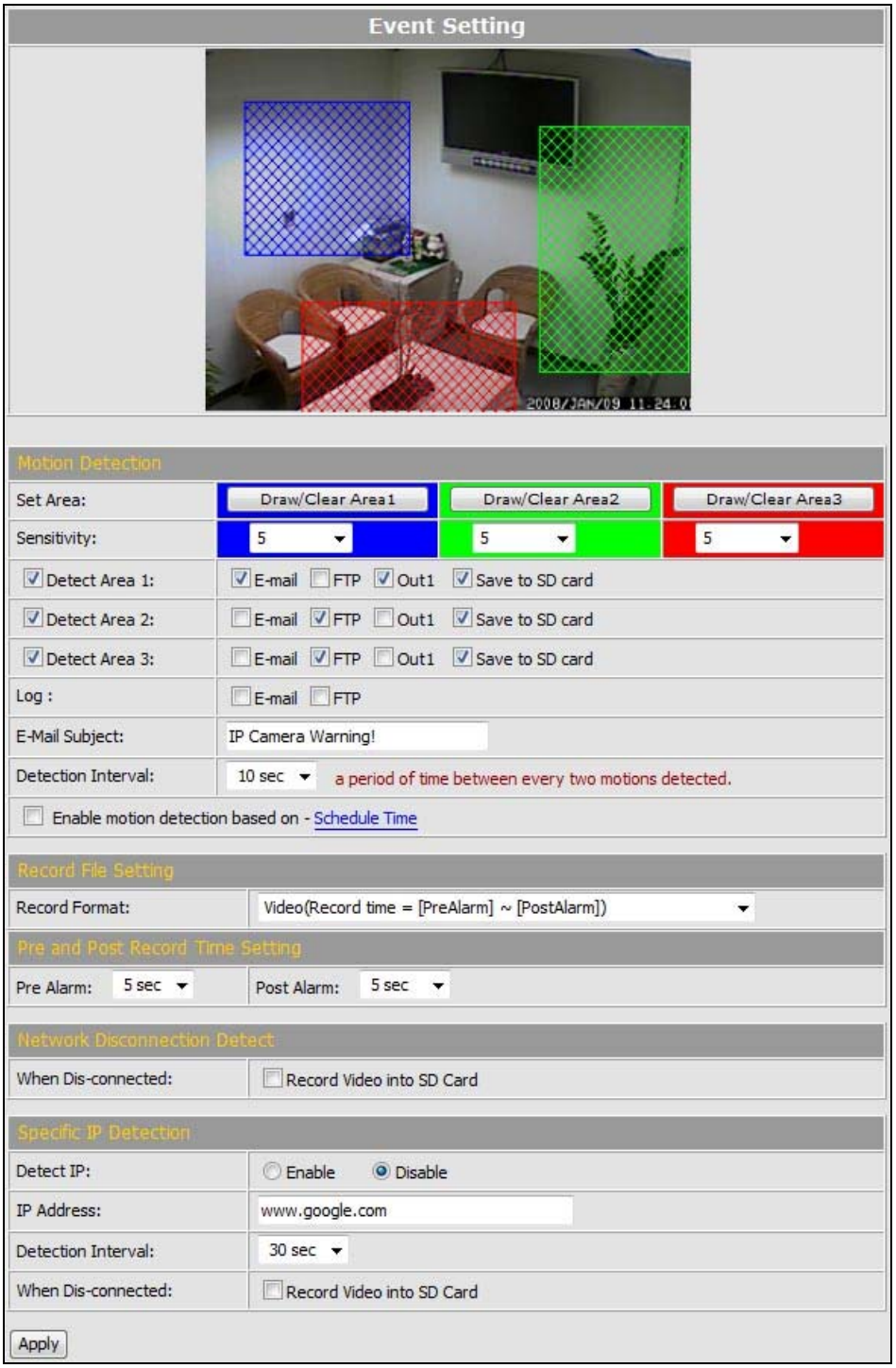
Update Failed, please check the account information with you provider: The input hostname, username or password may be wrong.

D. Event Handling

Event Setting

This device supports multiple event settings.

Event



This device supports 4 kinds of event detections:

- Motion Detection.
- Digital Input Detection.
- Network Disconnection Detection: This event will be triggered once the wire network is disconnected.
- Specific IP Detection: This event will be triggered once the network connection with a specific IP address is disconnected.

Motion Detection

This device allows 3 areas for detect motion. When motion detection is triggered, it can send the video or snapshot to specific mail address; transmit the video or snapshot to remote FTP server; trigger the digital out; record video or snapshot into local SD card.

Set the Area: To set up or clear the motion area, click **[Draw/Clear Area]** button on "Set Area" row, and then use mouse to drag the area on the video.

Adjust the Sensitivity: To adjust the sensitivity of detection, select the level from the pull-down list.

Activate Motion Detection: To activate the motion detection, enable the **[Detect Area]** check box

Actions when Motion Detection is Trigger: Select what actions will be taken once the motion detection is triggered in each area.

- E-mail: When the motion detection is triggered in this area, send the recorded video or snapshot to the specific mail address.
- FTP: When the motion detection is triggered in this area, send the recorded video or snapshot to the specific FTP site.

  To set the mail account and FTP site, please refer to Configuration → Event Handling → Mail&FTP page.
- Out1: When the motion detection is triggered in this area, turn on the Digital Output 1.
- Save to SD Card: When the motion detection is triggered in this area, record the video or snapshot into the local SD card.

Log: If "Save to SD Card" option has been selected for action, you can determine whether send a message to the specific mail address or FTP site.

E-Mail Subject: The subject of the E-mail will be sent.

Detection Interval: This option provides two functions:

- The interval time between multiple detections. For example, if the time set to 10 seconds, when the motion detection is triggered at time 10H:05M:10S, the next detection will be accepted after 10H:05M:20S. The detections between 10H:05M:10S to 10H:05M:19S will not be accepted.

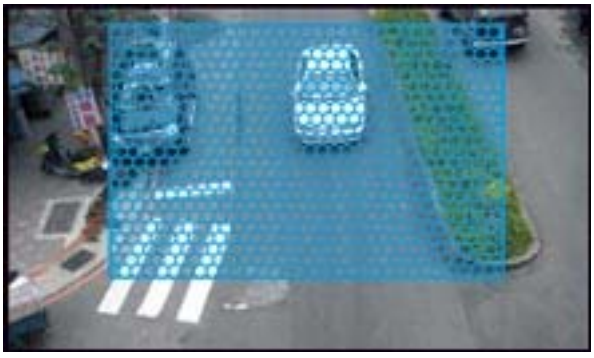
  Note: The interval time for the "Save to SD Card" action is equal to or longer than 30 seconds.
- If the "Out" is selected for the action, the Interval means "Digital Output On" period. For example, if Interval set to 20 seconds, when the motion detection is triggered, the Digital Output will be "On" and lasting for 20 seconds, and then "Off" automatically.

Enable Motion Detection in Schedule Time: Enable this option will automatic activate the motion detection with scheduled time and stop the detection in the other time. Please refer to Schedule page to setup the schedule time.

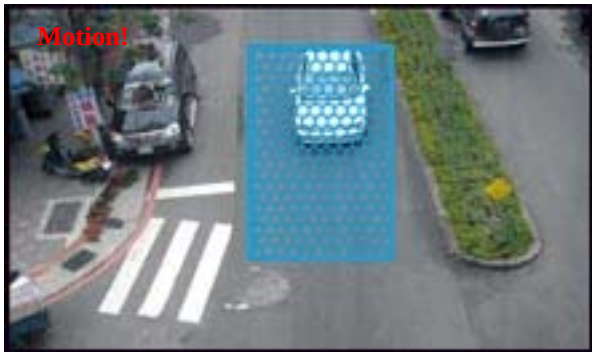
Recommendation of Motion Detection Area

To ensure the Motion Detection works well, and avoid unnecessary trigger, please follow the rules to draw the Motion Detection Areas:

- The moving object larger than the 50% of the Motion Detection Area, it will be detected, and the Motion Detection is triggered.
- The moving object smaller than the 50% of the Motion Detection Area, it will not be detected, and the Motion Detection will not be triggered.
- Recommend use 3 smaller Motion Detection Areas to replace a large area.

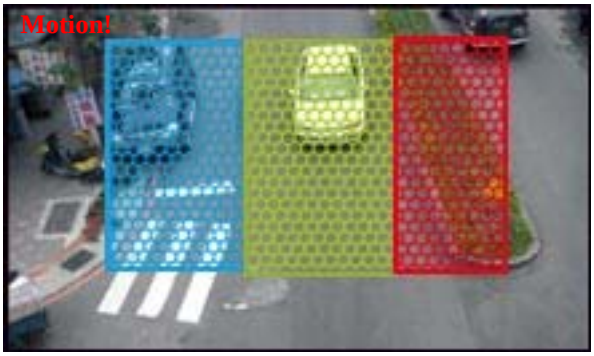


The moving object smaller than the 50% of the motion area, it will not be detected!



The moving object larger than the 50% of the motion area, it will be detected, and the motion is triggered!

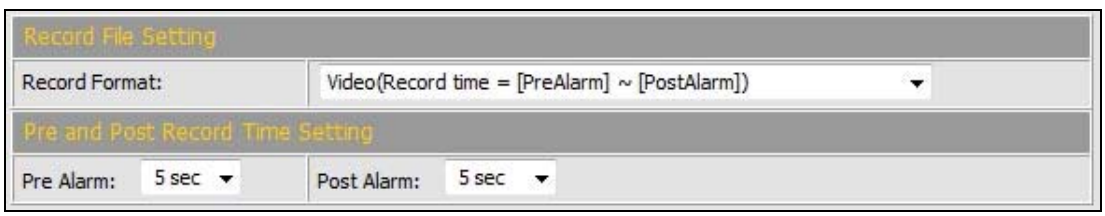
To detect the smaller moving object, use 3 motion areas to replace a large motion area, refer the figure below:



The moving object will be detected when it is in any of the 3 motion areas, and the motion is triggered!

Record File Setting

There are 3 methods to record the event video in SD card or send out via E-mail, FTP:



Video: When an event (Motion Detection or Digital Input Detection) is triggered, the video will be recorded as still image with AVI format. The beginning and ending time of the file is depending on the Pre and Post Record Time Setting.

Snapshots: This option is available when the "Video Format" of streaming 1 is set as "JPEG" in Video Format. When an event (Motion Detection or Digital Input Detection) is triggered, this device will take a series of snapshot with JPG format. The beginning and ending time of the snapshot pictures is depending on the Pre and Post Record Time Setting.

Snapshot (Single): This option is available when the "Video Format" of streaming 1 is set as "JPEG" in Video Format page. When an event (Motion Detection or Digital Input Detection) is triggered, this device will take a snapshot with JPG format.

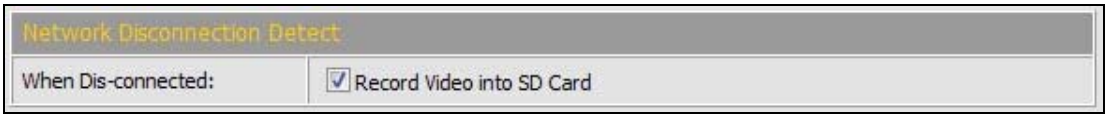
Pre and Post Record Time Setting

Configure the record time for the event recording file. For example, if set "Pre Alarm" as 3 seconds and set "Post Alarm" as 5 seconds, when an event (Motion Detection or Digital Input Detection) is triggered at time 10H:05M:10S, the video will be recorded from 10H:05M:07S to 10H:05M:14S.

Note: Limited by the built-in RAM of this device, when data is too much or video quality set too high, it will cause recording frame drop or decrease the recording time of post alarm.

To avoid the "frame drop" situation, please reduce the bitrate of the video. We recommend connect the device in LAN (Local Network) and set the video as CBR, and Bitrate less than 1.5Mbps.

Network Disconnection Detect

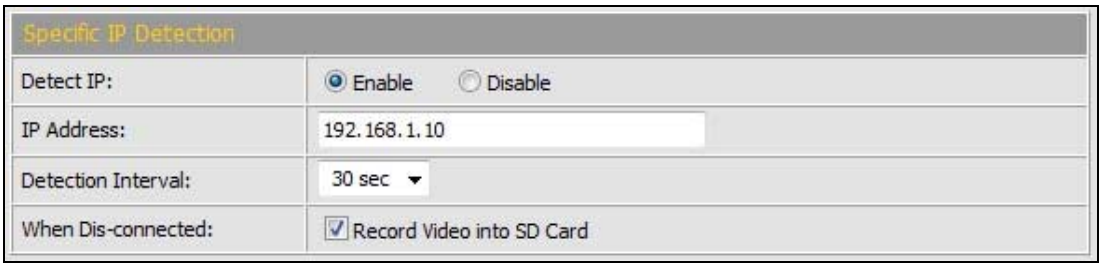


After enable the check box of "Record Video into SD Card", when the wire network is disconnected, it will save the video into local SD card.

Note: When this event is happen, the frame rate of live video and recorded video will be limited to 5FPS. The interval of two video files recorded on SD card is fixed with 30 seconds.

Specific IP Detection

For the use of recording software, this device supports the detection of the connection of this device and PC. Whenever the connection is disconnected, it records the video to local SD card to make sure the video recording is continuous.



Detect IP – Enable / Disable: Select to enable or disable this function.

IP Address: The IP address or URL of the PC which installed the recording software.

Detection Interval: The interval time of the detection.

When Dis-connected: After enable the check box of “Record Video into SD Card”, when the network connection of PC is disconnected, it will save the video into local SD card.

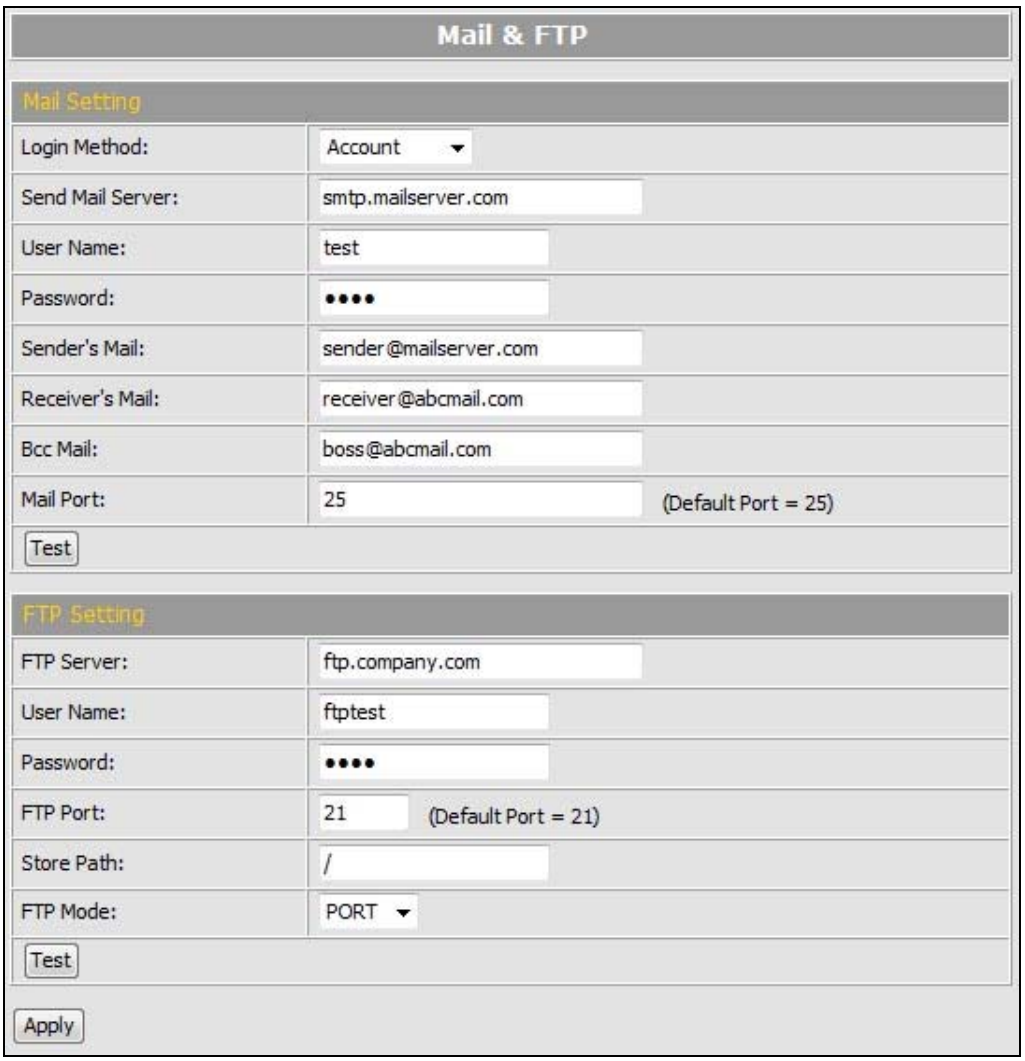
Note: When this event is happen, the frame rate of live video and recorded video will be limited to 5FPS. The interval of two video files recorded on SD card is fixed with 30 seconds.

*After set up, click **[Apply]** to save the settings.*

Mail & FTP Setting

To send out the event video via E-mail or FTP, please set up the configuration first.

Mail & FTP



Mail Setting

Login Method: This device provides 2 kinds of mail settings. “Anonymous” for the mail server which doesn’t need login with user name and password. “Account” for the mail server which needs login with user name and password.

Send Mail Server: The IP address or URL of the send-mail server.

User Name / Password: The user name and password of the sender to login mail server and send the mail.

Sender’s Mail: The sender’s mail address.

Receiver’s Mail: The receiver’s mail address.

BCC Mail: The mail address to receive the mail also.

Mail Port: The port of the mail service. Default is 25.

FTP Setting

FTP Server: The IP address or URL of the FTP server.

User Name / Password: The user name and password to log in the FTP server.

FTP Port: The port of the FTP service. Default is 21.

Store Path: The path to save the sent video.

FTP Mode: Select “PORT” or “PASV to fit the FTP server. “PORT” is for sending file to an Active FTP server; “PASV” is for sending file to a Passive FTP server.

*After set up, click **[Apply]** to save the settings.*

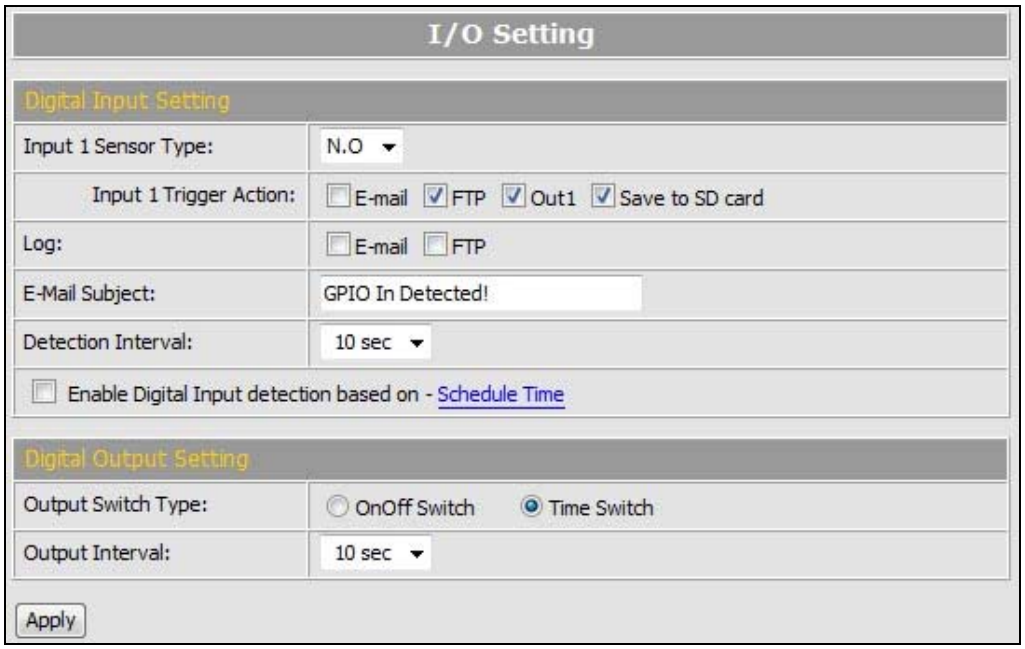
Test the Settings

You can click **[Test]** button, this device will send a test mail to receiver’s mail box, or upload a test file to FTP site, to make sure the settings of mail or FTP are correct.

I/O Setting

This device provides Digital Input and Digital Output. When the Digital Input is triggered, it can send the video or snapshot to specific mail address; transmit the video or snapshot to remote FTP server; trigger the digital out; record video or snapshot into local SD card.

I/O Setting



Digital Input Setting

Input 1 Sensor Type: Select the type of the sensor which connected to the Digital Input. **[N.O]** means “Normally Opened”, this type of sensor will be triggered when it is closed. **[N.C]** means “Normally Closed”, this type of sensor will be triggered when it is opened.

Input 1 Trigger Action: Select the actions when the Digital Input is triggered.

- E-mail: When the Digital Input is triggered, send the recorded video or snapshot to the specific mail address.
- FTP: When the Digital Input is triggered, send the recorded video or snapshot to the specific FTP site.

  To set the mail account and FTP site, please refer to Configuration → Event Handling → Mail&FTP page.
- Out1: When the Digital Input is triggered, activate the Digital Output 1.
- Save to SD Card: When the Digital Input is triggered, record the video or snapshot into to SD card.

Log: If “Save to SD Card” option has been selected for action, you can determine

whether send a message to the specific mail address or FTP site.

E-Mail Subject: The subject of the E-mail will be sent.

Detection Interval: This option provides two functions.

- The interval time between multiple detections. For example, if the time set to 10 seconds, when the Digital Input is triggered at time 10H:05M:10S, the next trigger will be accepted after 10H:05M:20S. The triggers between 10H:05M:10S to 10H:05M:19S will not be accepted.
- If the “Out” is selected for the action, the Interval means “Digital Output On” period. For example, if Interval set to 20 seconds, when the Digital Input is triggered, the Digital Output will be “On” and lasting for 20 seconds, and then “Off” automatically.

Enable Digital Input Detection in Schedule Time: Enable this option will automatic activate the Digital-Input detection with scheduled time and stop the detection in the other time. Please refer to Schedule page to setup the schedule time.

Digital Output Setting

This section is for setup the parameters of Digital Output.

Note: The following settings are available when manually turn on the Relay Out on Live-View page.

Output Switch Type: Select the type of the Digital Output switch. **[On/Off Switch]** will be triggered to On or Off constantly. **[Time Switch]** will be triggered to “On” and lasting for a period time, and then “Off” automatically.

Output Interval: If the Digital Output switch is a “Time Switch”, the lasting time of the “On” period can be set here.

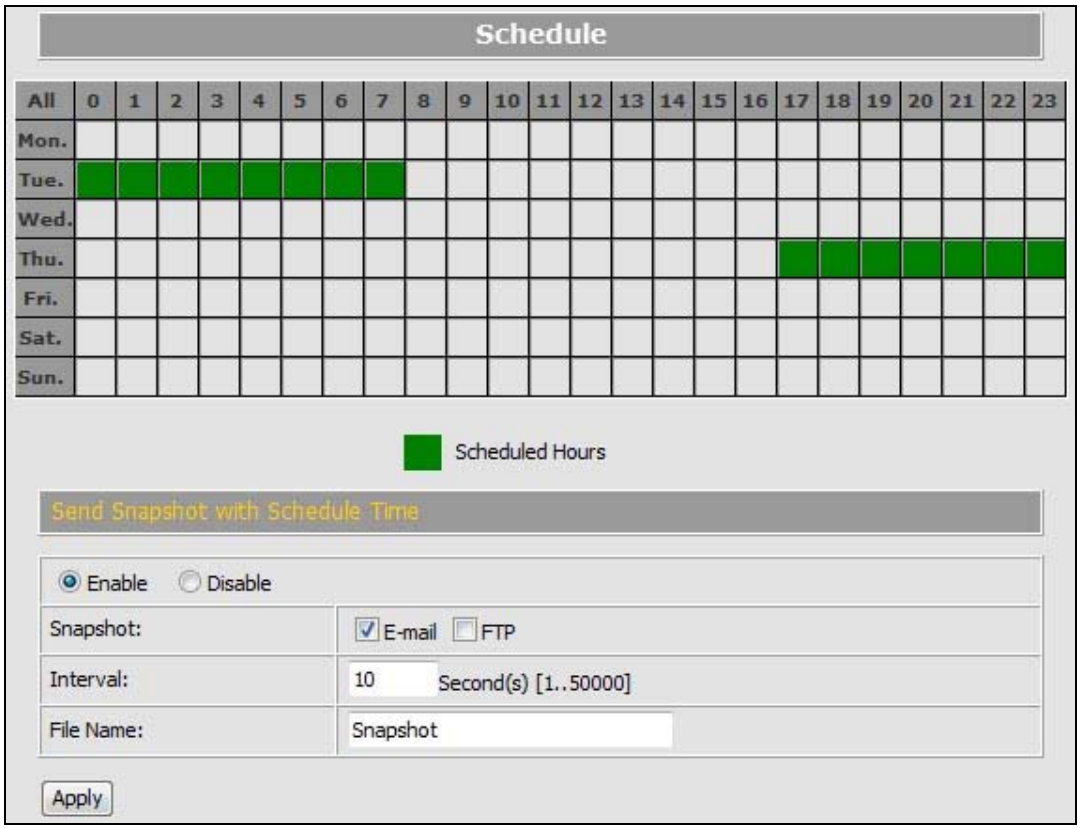
*After set up, click **[Apply]** to save the settings.*

Schedule

This function provides the schedule for the following:

- Send Snapshot with the Scheduled Time: automatic send a snapshot to the E-mail address or FTP site. The interval time can be set.
- Activate and Stop the Motion Detection with Scheduled Time: if the “Enable Motion Detection in Schedule Time” option in Configuration ➝ Event Handling ➝ Event Setting ➝ Motion Detection page is enabled, the motion detection will be activated with scheduled time and stop the detection in the other time.
- Activate and Stop the Digital Input Detection with Scheduled Time: if the “Enable Digital Input Detection in Schedule Time” option in Configuration ➝ Event Handling ➝ I/O Setting page is enabled, the Digital-Input detection will be activated with scheduled time and stop the detection in the other time.

Schedule



Setup Schedule

Select / Unselect All Time: Click **[All]** of the top-left of the time table to select or unselect all time. The square in green means the time is selected; the square in

light-grey means the time is unselected.

Select / Unselect Specific Time: Click the square of the time table to select or unselect the specific time. The square in green means the time is selected; the square in light-grey means the time is unselected.

Send Snapshot with Scheduled Time

Enable / Disable: To enable or disable the schedule function.

Snapshot: Select the method to send out the snapshot.

- E-mail: Automatic send the snapshot to the specific mail address, the interval time of the snapshot pictures is depending on the Interval setting.
- FTP: Automatic send the snapshot to the specific FTP site, the interval time of the snapshot pictures is depending on the Interval setting.

  To set the mail account and FTP site, please refer to Configuration ➝ Event Handling ➝ Mail&FTP page.

Interval: The interval time of the snapshot pictures. For example, if the time set to 10 seconds, in the scheduled time, the device will send out snapshot every 10 seconds.

File Name: The header of the filename of the snapshot. For example, if you input “Camera” in this field, the filename of the snapshot will be “Camera-yyyymmdd-hhmmss.jpg”, “yyyymmdd” indicates the year, month and date; hhmmss indicates the hour, minute and second.

*After set up, click **[Apply]** to save the settings.*

SD Card

In this page, if a SD Card is inserted, you can record the video once an event is triggered, play back and manage the recorded files in the SD Card.

Note: The recorded video contains video only, it does not record the audio.

The SD card must be formatted as FAT or FAT32 file system.

The use of the SD Card will affect the operation of this device slightly, such as affecting the frame rate of the video.

Install SD Card

Make sure the direction and pushing SD card into the slot completely.

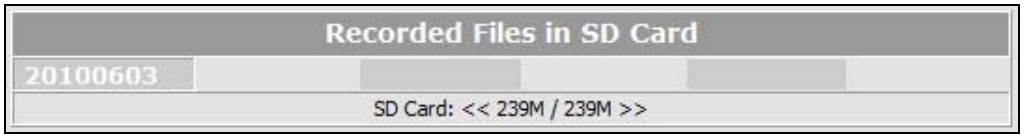
Record

Enable **[Save to SD Card]** option in Event Setting or I/O Setting page, the video can be recorded into the card once the event is triggered. When the SD Card is full, it will remove the earliest file automatically.

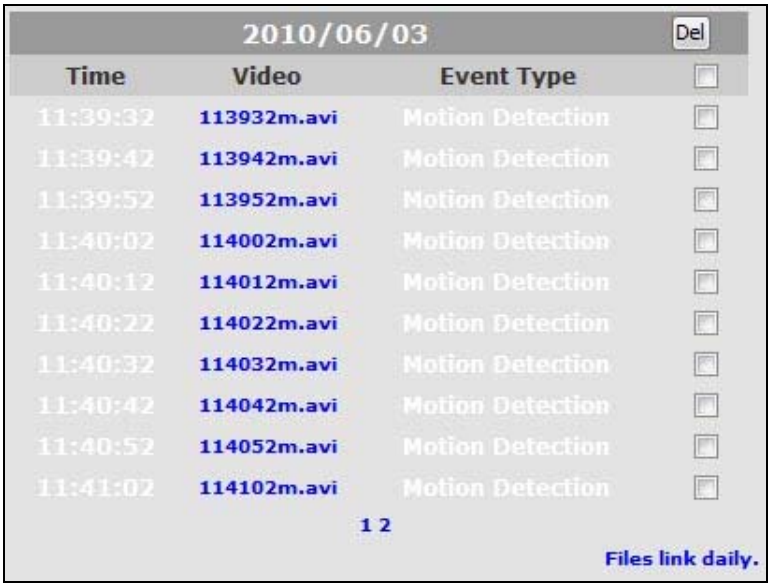
Playback

When open this page, the date of recorded files shows.

SD Card



To view the recorded files, just click the date, it will show the list of the recorded files.



The ".avi" extension name of the file means this file is a video file; the ".jpg" extension name means it is a picture file. Click the file to start Microsoft Media Player to play it. If the bandwidth is lower for playback directly, please right-click on the file and select **[Save As…]** to download it to the PC, and then play the downloaded file with Microsoft Media Player.

Note: the video format is compressed with MPEG4, the PC must install the MPEG4 decoder. You can install "FFdshow" from the included CD for the decoder.

Delete Recorded File

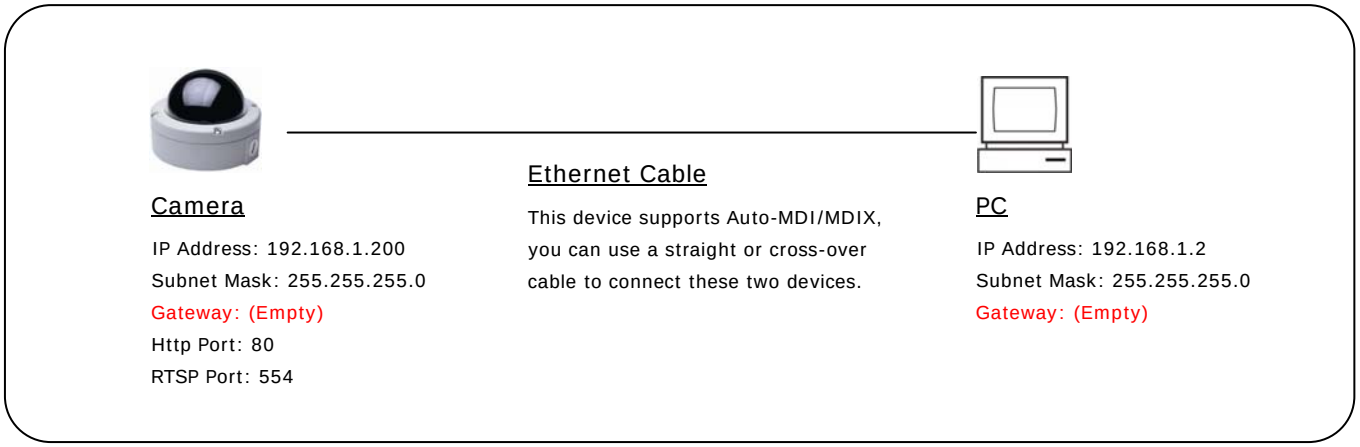
To delete the recorded file, check the check box of the file, then click **[Del]** button.

6. Network Configuration

A. Intranet Only

Connects to PC Directly

If you want to connect the camera to PC directly for the very first time setup, please refer to the figure below for the connection.



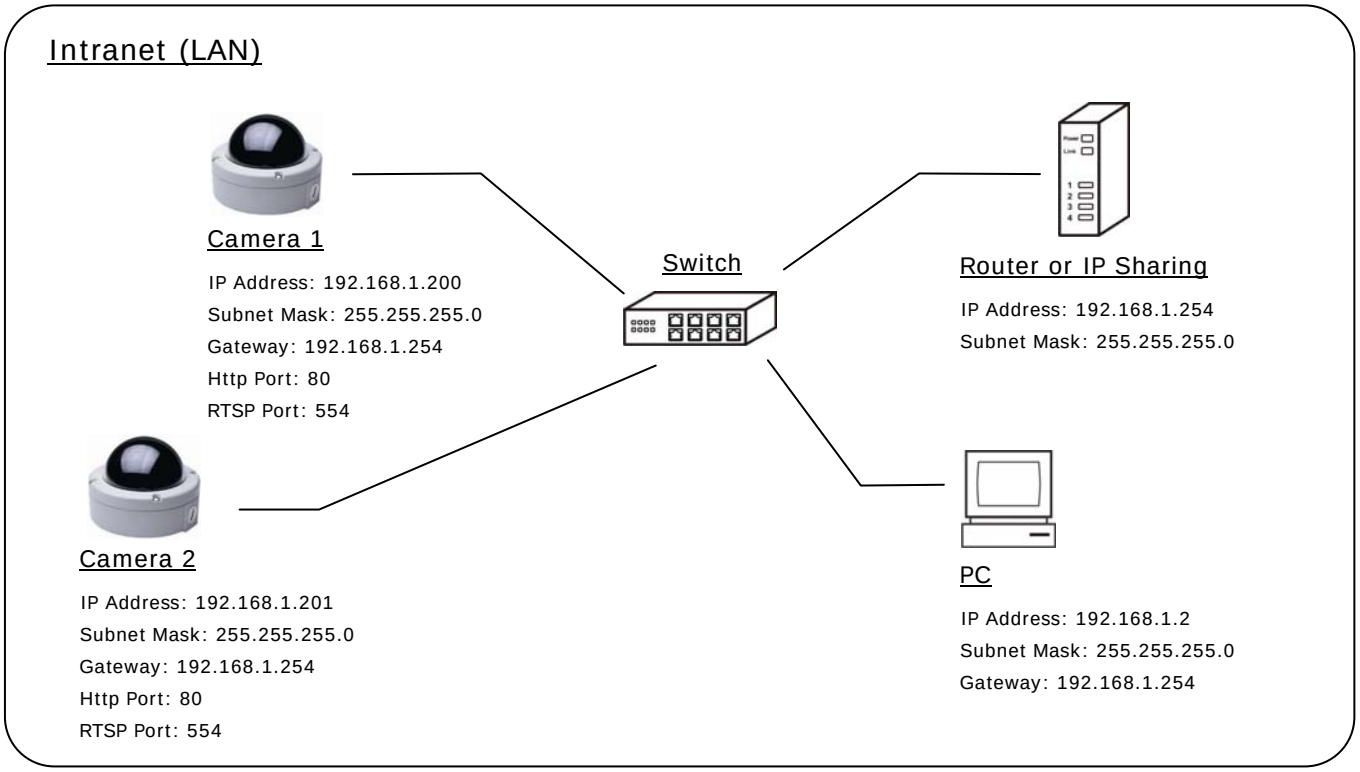
- Connect the camera to PC with Ethernet cable. The camera equips an Auto-MDI/MDIX network connector, you can use a straight or cross-over Ethernet cable.
- Refer to Configuration → Network → Network page to configure the IP settings.
- Please make sure the IP address of PC and camera are in the same subnet. Ex. 192.168.1.2 and 192.168.1.200 have the same subnet.
- Set Subnet Mask of PC and camera.
- Clear the Gateway of PC and camera to empty.

For example, if the IP settings have been configured as the above figure, the cameras can be linked with following addresses:

Client	Camera	Link Address	Remark
PC	Camera	http://192.168.1.200	

Connects to an Exist LAN

If the camera will be used in a local network (LAN) and don't allow to access via Internet, please refer to the figure below for the connection.



- Connect the cameras to the Switch.
- Refer to Configuration → Network → Network page to configure the IP settings.
- Please make sure the IP address of Router, PC and camera are in the same subnet. Ex. 192.168.1.2 and 192.168.1.200 have the same subnet.
- Set Subnet Mask of Router, PC and cameras.
- Set Gateway of PC and cameras with the same IP address. Usually, the Gateway is the IP address of router.
- Set the IP address of a valid DNS into cameras. An invalid DNS will cause the domain name can't be resolved and reached, such as email address.

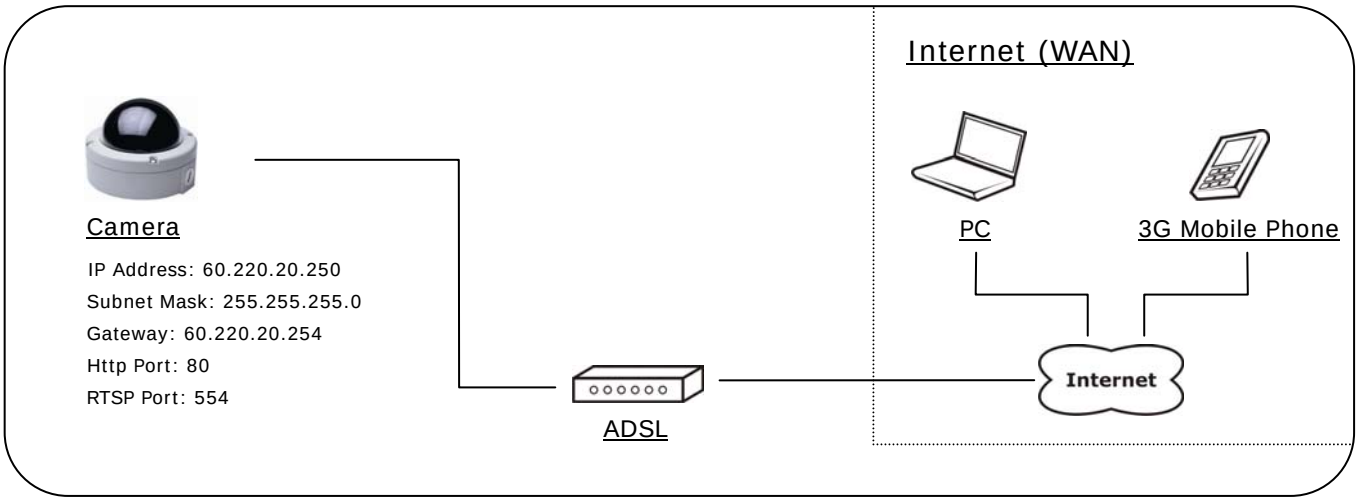
For example, if the IP settings have been configured as the above figure, the cameras can be linked with following addresses:

Client	Camera	Link Address	Remark
PC	Camera 1	http://192.168.1.200	
	Camera 2	http://192.168.1.201	

B. Internet Only

Connects to ADSL with Fixed Public IP Address

If the camera connects to Internet with an ADSL modem and the public IP address of ADSL is fixed, please refer to the figure below for the connection.



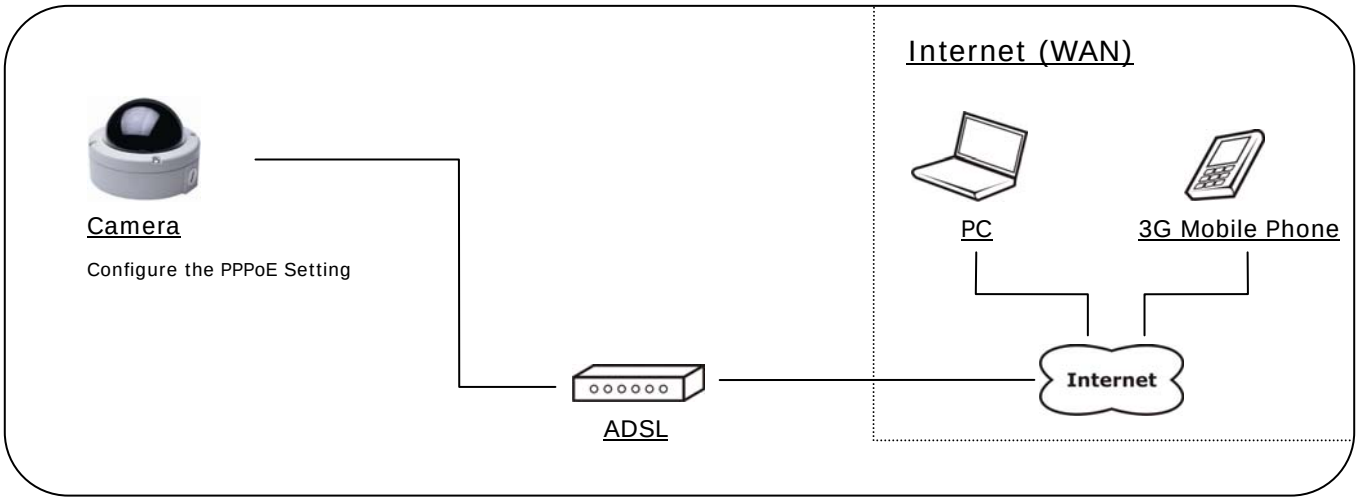
- Connect the camera to the ADSL modem.
- Refer to Configuration → Network → Network page, configure the IP address, Subnet Mask, Gateway and DNS with the settings that ISP provided for ADSL connection.

For example, if the public IP address is “60.220.20.250”, now the camera can be linked with following addresses:

Client	Link Address	Remark
PC	http://60.220.20.250	
3G Mobile Phone	With audio: rtsp://60.220.20.250/3g Without audio: rtsp://60.220.20.250/3gx	Must enable “3GPP Stream” in Configuration → Video/Audio → Video Format page

Connects to ADSL with Floating Public IP Address (PPPoE)

If the camera connects to Internet with an ADSL modem and the public IP address of ADSL is variable, the camera can use PPPoE function for the connection.



- Connect the camera to the ADSL modem.
- Refer to Configuration ➝ Network ➝ PPPoE page to configure the PPPoE settings.
- The camera will automatic dial-up and get the public IP address from ISP.
- If you have enable “Send Mail After Dialed” function, the camera will send an email to tell you the current public IP address.

For example, if the public IP address is “60.220.20.250”, now the camera can be linked with following addresses:

Client	Link Address	Remark
PC	http://60.220.20.250	
3G Mobile Phone	With audio: rtsp://60.220.20.250/3g Without audio: rtsp://60.220.20.250/3gx	Must enable “3GPP Stream” in Configuration ➝ Video/Audio ➝ Video Format page

Using DDNS Function

Since the public IP address is variable, you can enable DDNS function to get a fixed URL to instead of the IP address, refer to Configuration ➝ Network ➝ DDNS page to configure and enable the DDNS function.

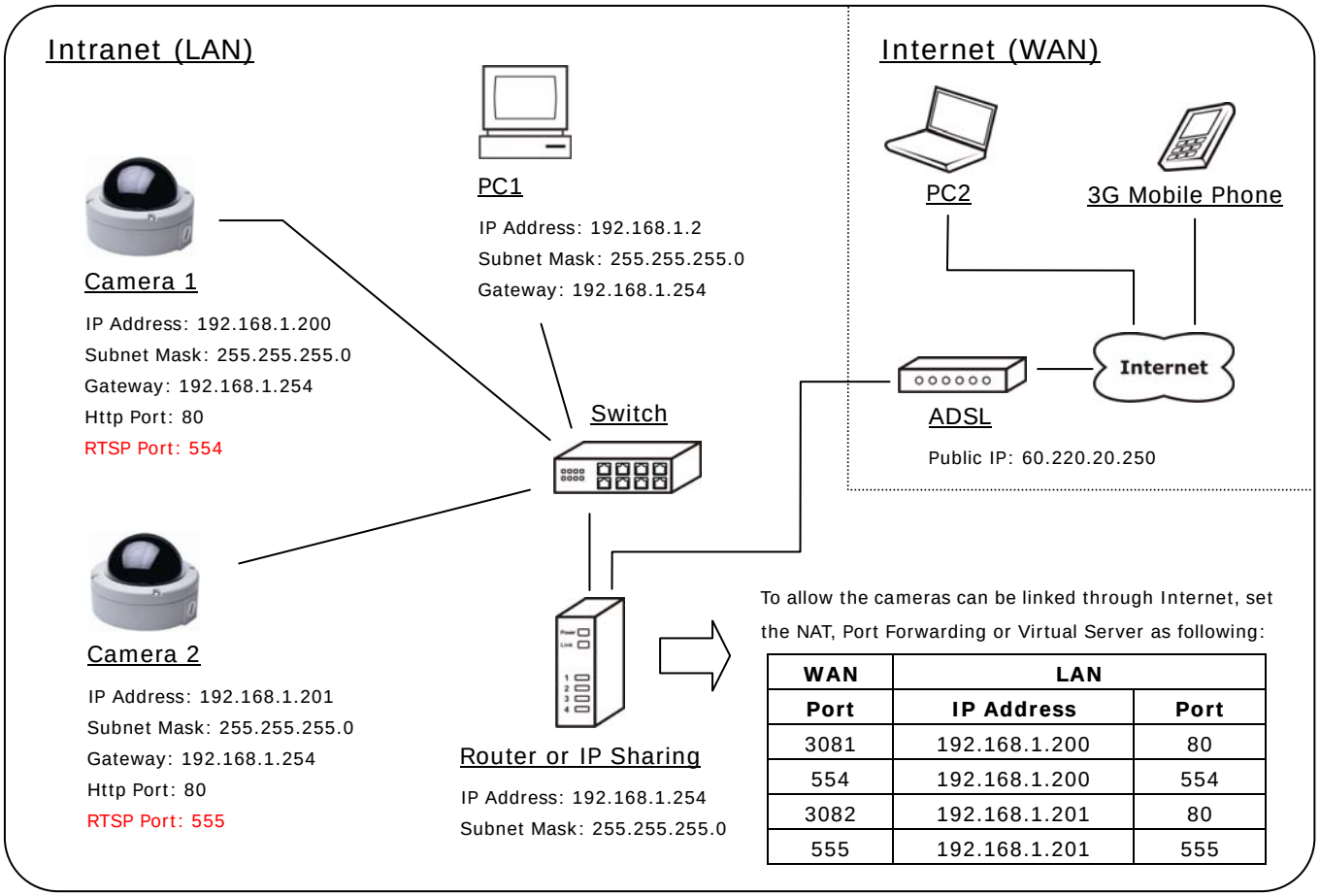
After enable the DDNS, assume the registered URL is “test.dyndns.org”, now the camera can be linked with following URLs:

Client	Link Address	Remark
PC	http://test.dyndns.org	
3G Mobile Phone	With audio: rtsp://test.dyndns.org/3g Without audio: rtsp://test.dyndns.org/3gx	Must enable “3GPP Stream” in Configuration ➝ Video/Audio ➝ Video Format page

C. Intranet + Internet

Connects to Internet with Fixed Public IP Address

If the camera will be added into a local network (LAN), and will be accessed via both Intranet and Internet, please refer to the figure below for the connection.



To allow the cameras can be linked through Internet, set the NAT, Port Forwarding or Virtual Server as following:

WAN	LAN	
Port	IP Address	Port
3081	192.168.1.200	80
554	192.168.1.200	554
3082	192.168.1.201	80
555	192.168.1.201	555

- Assume the local network will be connected to Internet with ADSL connection, first, configure the router (or IP sharing) with the ADSL connection. Please refer to the user's manual of router for the configuration.
- Connect the cameras to the Switch.
- Refer to Configuration → Network → Network page to configure the IP settings.
- Configure the cameras with different IP address. Ex. assign camera1 to 192.168.1.200, and assign camera2 to 192.168.1.201
- Please make sure the IP address of Router, PC and cameras are in the same subnet. Ex. 192.168.1.2 and 192.168.1.200 have the same subnet.

- Set Subnet Mask of Router, PC and cameras.
- Set Gateway of PC and cameras with the same IP address. The Gateway is the IP address of router.
- Set the IP address of a valid DNS into cameras. An invalid DNS will cause the domain name can't be resolved and reached, such as email address.
- Configure the cameras with different RTSP port. Ex. assign camera1 with port 554, and assign camera2 with port 555.
- To allow the cameras can be linked through Internet, set router's NAT (Network Address Translation), Port Forwarding or Virtual Server as following:

Camera	WAN Side		LAN Side			Remark
	Port	Protocol	IP Address	Port	Protocol	
Camera 1	3081	TCP	192.168.1.200	80	TCP	Port for Web page
	554	TCP	192.168.1.200	554	TCP	Port for Video and Audio
Camera 2	3082	TCP	192.168.1.201	80	TCP	Port for Web page
	555	TCP	192.168.1.201	555	TCP	Port for Video and Audio

For example, if the IP settings have been configured as the above figure, the cameras can be linked with following addresses:

Clients in Intranet	Camera	Link Address	Remark
PC1	Camera 1	http://192.168.1.200	
	Camera 2	http://192.168.1.201	

Client from Internet	Camera	Link Address	Remark
PC2	Camera 1	http://60.220.20.250:3081	
	Camera 2	http://60.220.20.250:3082	
3G Mobile Phone	Camera 1	With audio: rtsp://60.220.20.250:554/3g Without audio: rtsp://60.220.20.250:554/3gx	Must enable "3GPP Stream" in Configuration → Video/Audio → Video Format page

	Camera 2	With audio: rtsp://60.220.20.250:555/3g Without audio: rtsp://60.220.20.250:555/3gx	

Connects to Internet with Floating Public IP Address

If the public IP address of ADSL connection is variable, you can enable DDNS function to get a fixed URL to instead of the IP address.

Note: only one device can enable the DDNS function in the local network (LAN), multiple devices use DDNS will update to the DDNS provider too frequently, and the DDNS provider will block your URL.

If the router has DDNS function, use router's DDNS function is recommended. Please refer to the user's manual of router for the configuration.

If the router doesn't have DDNS function, use one of the cameras DDNS function is recommended. Refer to Configuration ➞ Network ➞ DDNS page to configure and enable the DDNS function.

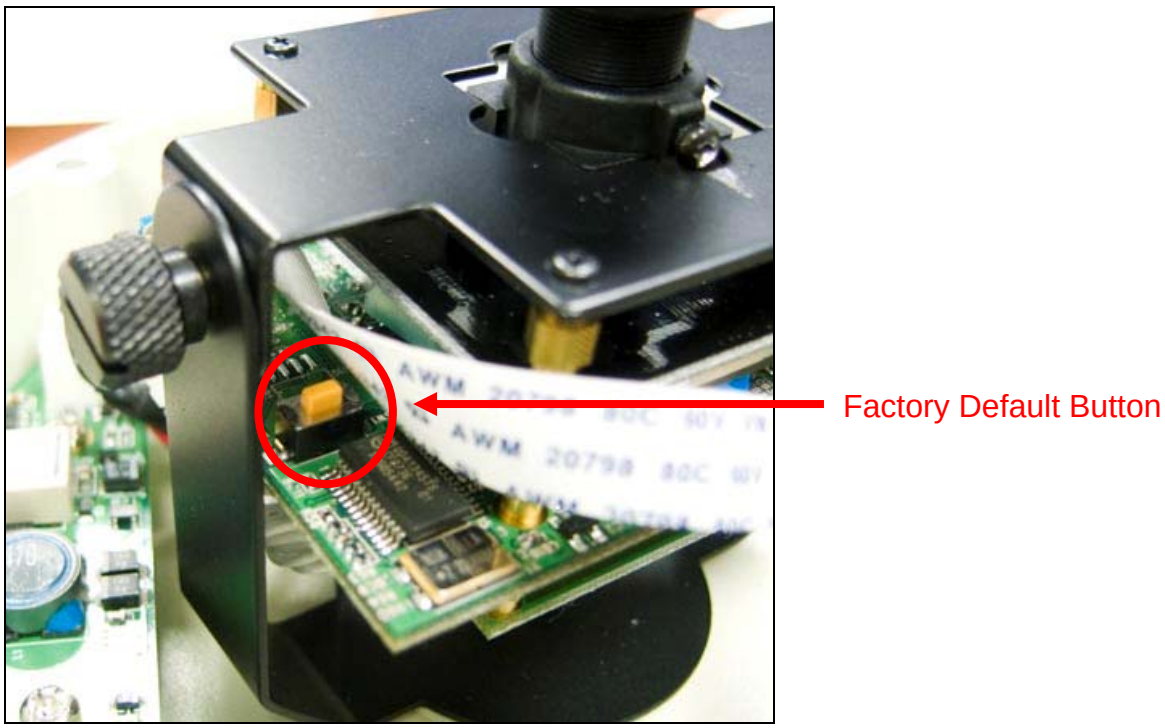
After enable the DDNS, assume the registered URL is "test.dyndns.org", now the cameras can be linked with following URLs:

Client from Internet	Camera	Link Address	Remark
PC2	Camera 1	http://test.dyndns.org:3081	
	Camera 2	http://test.dyndns.org:3082	
3G Mobile Phone	Camera 1	With audio: rtsp://test.dyndns.org:554/3g Without audio: rtsp://test.dyndns.org:554/3gx	Must enable "3GPP Stream" in Configuration ➞ Video/Audio ➞ Video Format page
	Camera 2	With audio: rtsp://test.dyndns.org:555/3g Without audio: rtsp://test.dyndns.org:555/3gx	

7. Factory Default

To recover the default password and other settings, please follow the steps:

1. Power off this device.
2. Remove the cover of device.
3. Push the "Factory Default Button" as shown on the picture below, and keeping push it and don't release.



4. Power on the device. Don’t release the button during the system booting.
5. It will take around 30 seconds to boot the device.
6. Release the button when the device finishes proceed.
7. Re-login the device using the default username (admin) and password (admin).
8. The IP address is probably restored to the default, in this case, use IP Search utility to search the device. The default IP address is 192.168.1.200

Compatible List of SD Card

The Compatible List of SD Card

SDHC Card Compatible List		
Vendor	Test Result	Status
SanDisk 4G	OK	
SanDisk 8G	OK	
Transcend 4G	OK	
Transcend 8G	OK	
Transcend 16G	OK	
ADATA 8G	OK	
Toshiba 4G	OK	

SD Card Compatible List		
Vendor	Test Result	Status
SanDisk 128M	OK	Recommend
SanDisk 256M	OK	Recommend
SanDisk 512M	OK	Recommend
SanDisk 1G	OK	Recommend
SanDisk 2G	OK	Recommend
Transcend 128M 80X	OK	Recommend
Transcend 256M 80X	OK	Recommend

Vendor	Test Result	Status
Transcend 512M 80X	OK	Recommend
Transcend 1G 80X	OK	Recommend
Transcend 2G 150X	OK	Recommend
Transcend 4G 150X	OK	Recommend
A-DATA 512M	OK	
A-DATA 4G	OK	
Toshiba 128M	OK	
Toshiba 256M	OK	
Kingmax 256M	OK	
PRETEC 128M	OK	
Photofast 256M	OK	
Phast 256M	OK	
PK 128M	OK	
READY 128M	OK	
SiliconPower 128M	OK	
SiliconPower 256M	OK	
TEKQ 128M	OK	
TEKQ 256M	OK	
TwinMOS 128M	OK	
TwinMOS 256M	OK	
UMAX 128M	OK	
UMAX 256M	OK	
Blast 128M	OK	

Vendor	Test Result	Status
U-TEK 128M	OK	
GiGATEK 128M	OK	
Kingston 128M	OK	The speed is slower
Kingmax 256M	OK	The speed is slower
Kingston 512M	OK	The speed is slower
Kingston 1G	OK	The speed is slower
AFMC 128M	Fail	Card Reader also Fail
PDA 128M	Fail	Card Reader also Fail
Apacer 128M	Fail	
JENOPTIK 128M	Fail	
FDC 256M	Fail	